

WINTER 2005

Harvard Medical

ALUMNI BULLETIN

PRIDE AND PREJUDICE

A historian uncovers the stories of the courageous young men—and one woman—who broke the race barrier at Harvard Medical School.

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PIONEER

1961

For more than 40 years Robert Gross '31 transformed the practice of surgery, pediatrics, and cardiology. His innovations included the first successful major surgery on the great vessels near the heart, with the ligation of a patent ductus arteriosus in 1938; the first corrective surgery of coarctation of the aorta in 1945; and one of the largest series in the world of successful open-heart repairs of congenital anomalies of the heart in infants and children.

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Cover photograph: Laurel Keith '52 as a Tuskegee airman, courtesy of Stephen N. Keith

In This Issue

IN ONE OF THE CORRIDORS OF SYMPHONY HALL HANGS AN ENLARGED photograph of the Boston Symphony Orchestra with its greatest conductor, Serge Koussevitzky. In contrast to the orchestra's appearance today, two elements in this picture stand out: The seats are arranged differently. And they are all occupied by white men, save for a lone bassoonist. She was hired in 1945 and was the first woman other than a harpist to hold a chair in the orchestra.

That same year the owners of the Boston Red Sox first invited African Americans to try out at Fenway Park. They passed over Jackie Robinson, and the team would not even halfheartedly integrate until 1959.

By then Harvard Medical School was doing a slightly better job of fostering equal opportunity. For 80 years a trickle of determined, brave, and gifted African American men had trained at HMS, and in 1945 the School saw fit to admit its first women.

Symphony Hall, Fenway Park, and Harvard Medical School all stand at the apices of a triangle in Boston's geography, and they have also become fixtures in the city's cultural, civic, and moral landscape. Under pressure, each has become visibly integrated, but the top leadership of each remains predominantly (or exclusively) white and male—as is the case with comparable institutions all over the country. Why is this?

One can imagine an argument being made that the major symphony orchestras (for example) have white men as conductors at least in part because only white men have the genetic endowment to make great music. One can imagine it, but not with a straight face. Yet similar arguments about the temperament and genetic endowment of black people or women wanting to be physicians have been made within living memory.

The historical fact is that cheesy theories about innate inclination and ability have long been the first refuge of those who would rationalize the lack of minorities in elite institutions. Step by step, experience has eroded these theories. The complexion of HMS has changed dramatically from what it was a generation or two ago, and so have assumptions about who can do what in medicine. This issue of the *Bulletin* joins the Alumni Association in celebrating 140 years of African American achievement, against great odds, at Harvard Medical School.

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“I am keenly aware of those situations in which tests are ordered, not so much to deliver good medical care, but rather to avoid being second-guessed at some future date, perhaps by a jury.”

—LESTER KLEIN, MD

mented) and equally or more valid than a decision to order the test. Assuming I was within the standard of care, is my position defensible in court?

I would like to see an effort to create laws that support doctors who demonstrably consider options but do not necessarily act affirmatively, in place of what seems to be current law, which retroactively frames doctors for not doing a certain test or procedure. Perhaps this suggested doctrine is already law, in which case I would urge that it be widely promulgated among our peers.

Good to see that Mitch Rabkin is still in the fray.

LESTER KLEIN, MD
BOCA RATON, FLORIDA

Déjà Vu All Over Again

I was frankly appalled at Mitchell Rabkin's article in the summer issue. I have been receiving the *Bulletin* for more than 30 years and have never felt compelled to write a letter to the editor—until now.

Dr. Rabkin's ideas are not new. He essentially recommends capitation, which has been tried and failed. His proposal basically promotes not taking care of patients so as little as possible of the capitation is spent. He suggests that performance reviews and patient satisfaction surveys can temper this pitfall. The problem is that these are difficult to do and are often biased. Dr. Rabkin also suggests a benefit from having the primary care physician fund referrals to specialists out of his capitation. This is a disincentive to refer and can result in primary care physicians treating beyond their abilities.

To borrow a simple analogy mentioned to me years ago, I suggest that Dr. Rabkin capitate his auto mechanic. When Dr. Rabkin pulls up and tells the mechanic that he suspects his car's brakes aren't working well, and the mechanic says things seem fine, assessing the car from his desk 20 feet away, will Dr. Rabkin feel secure driving his car?

As a practicing physician rather than an academic, and as a patient advocate,

Defensive Measures

I enjoyed the essay Mitchell Rabkin '55 wrote in the Summer 2004 edition of the *Bulletin*, “Can Humpty Dumpty Be Put Back Together?” As usual, Mitch is ahead of the curve in thinking about these issues. It occurs to me, though, that the costs associated with legal-defense practices should be addressed along with the other issues.

As a urologist, I am keenly aware of those situations in which tests are ordered, not so much to deliver good medical care, but rather to avoid being second-guessed at some future date, perhaps by a jury. We doctors are constantly aware of the potential legal ramifications of “acts of omission.” I am sure there are estimates of the costs of defen-

sive medicine; they must be huge. So how do we mitigate this situation?

In answer to this, I ask you to consider my own practice. When I decide not to order a test or procedure that might be construed as “defensive” medicine, I document my thought process in the record. For example, if I decide not to order an intravenous pyelogram, or IVP, I will write a note stating: “In this situation an IVP is not warranted.” This note proves I contemplated the IVP but, based on my education, experience, and judgment, decided the test was not warranted. Now it may turn out that at some future date that patient may need an IVP, and that IVP may show a renal cancer. Would I be in trouble? I have reasoned that my decision not to order the test was soundly based (and docu-

I view Dr. Rabkin's suggestions as unworkable. He is described as "a leader in medicine," which I am sure he is, but these ideas are neither new nor sound. I also feel they neither improve care nor benefit the patient. They may, in fact, work in the reverse.

MICHAEL A. NIERENBERG '71
PALO ALTO, CALIFORNIA

National Championship

Thank you for correcting a significant omission. Several times in the last few years both the *Bulletin* and *Harvard Magazine* have made forays into covering the health care delivery crisis. But even though some of the leading proponents of a comprehensive, government-sponsored solution are Harvard faculty members, that argument has been largely absent—until now. Publishing Steffie Woolhandler's piece in the Summer 2004 issue of the *Bulletin* gave tacit acknowledgment of the documented, growing physician support for national health insurance. As we careen ever closer to a "perfect storm" in health care, the Harvard family as well as the public should no longer dismiss this as political fantasy.

JAMES BERNSTEIN '52
ROCKVILLE CENTRE, NEW YORK

Final Wishes

In the speech Markella Zanni '04 gave at graduation, as printed in the summer issue of the *Bulletin*, she recounted an incident in which her colleagues inquired, in reference to a patient in her late eighties, "Did you ask about her end-of-life preferences?" I believe that "a sensitive monologue about advance directives" should have been part of the care provided by this patient's primary doctor well before this hospitalization. Presumably the patient had been asked about her advance directives upon admission as required by the Patient Self-Determination Act, so a question about code status would be a follow-up to the more basic end-of-life preferences.

As a volunteer counselor for advance directives, I know they are not just for old people. Linda Emanuel '84, who wrote "The Medical Directive," described how she brought up the subject with all her patients, assuring them that her query was routine and mentioning that she had an advance directive for herself.

BETSY CARPENTER
PORTOLA VALLEY, CALIFORNIA

Torch-Borne Trilogy

I was most favorably impressed by "The Changing Mosaic of Harvard Medical School," as Eve Higginbotham '79 described it in the summer issue of the *Bulletin*, and I applaud the efforts of HMS to diversify its student population as well as its faculty and staff. I was also delighted to see the



articles on the health care financing crisis. I regret that the profession has not produced greater leadership in assuring a stable and workable health care system for the people of this country, and I am glad to see the *Bulletin* addressing those questions.

Parenthetically, the superb medical school at the University of North Carolina at Chapel Hill, where I am professor of

medicine emeritus, just celebrated its fiftieth anniversary as a four-year school. It has a distinct Harvard flavor. Reece Berryhill, Class of 1927, established it as a four-year school. He was succeeded by Isaac Taylor, Class of 1945, and then by me, a member of the Class of 1951. My successor was Stuart Bondurant, who trained at the Brigham. Many of the school's faculty members have a Harvard background, and we can attribute some of its fantastic success to the Harvard legacy.

Many thanks for the summer issue.

CHRISTOPHER C. FORDHAM III '51
CHAPEL HILL, NORTH CAROLINA

Short and Sweet

The summer issue of the *Bulletin* includes an oath that the Class of 2004 crafted to take the place of the one by

Hippocrates. It is commendably idealistic but its 43 lines make it too long to be remembered. It begins, "I solemnly pledge to consecrate my life to the service of humanity." Such consecration is, in itself, a solemn pledge. One could simply say, "I give myself to the service of humanity."

I suggest consideration of an oath that would be a modification of the "Qualities of a Physician," by Oliver Wendell Holmes, Class of 1836: "To cure seldom, to relieve often, and to comfort always." The oath would read: "I give myself to the service of humanity. With the help of nature, I will cure whenever possible, relieve often, and comfort always. I will do no harm. I will honor my teachers by teaching. I will work for peace in myself, in my family, in my community, and in my world."

Peace and healing cannot be separated in a nuclear world and among underinsured communities.

GEOFFREY R. PAUL '56
SAN FRANCISCO, CALIFORNIA

The Bulletin welcomes letters to the editor. Please send letters by mail (Harvard Medical Alumni Bulletin, 25 Shattuck Street, Boston, Massachusetts 02115); fax (617-384-8901); or email (bulletin@hms.harvard.edu). Letters may be edited for length or clarity.

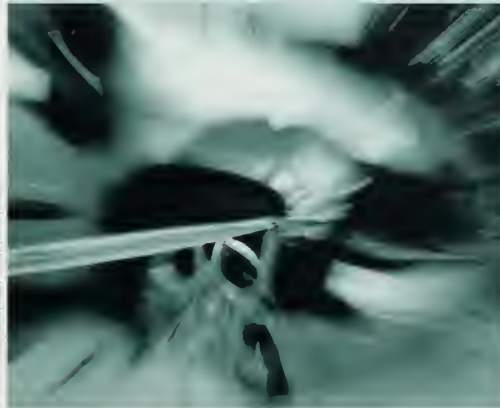
Wake-Up Call

CHRISTINE WEEKS '03, A SECOND-year surgical resident at Brigham and Women's Hospital, found the time to train for a marathon and run it in November, despite a busy schedule. Such a feat would have been difficult to imagine in the days when residents might spend an entire weekend at the hospital before going home for a few hours of sleep. Although Weeks and her fellow residents still put in an occasional 24-hour shift, for the most part, they work 12 hours at a time with 12 hours off between shifts. "You go home every day like a normal person," Weeks says.

Times are changing for medical residents. Many residency programs have been cutting back hours for years now. And guidelines imposed in 2003 by the Accreditation Council for Graduate Medical Education (ACGME) formalized those changes. Now, residents can average only 80 hours per week over a four-week period, must take a full day off per week and at least 10 hours off between shifts, and cannot work more than a 30-hour shift, of which the last 6 hours must not be devoted to clinical care.

When a team led by Charles Czeisler, the Frank Baldino, Jr., PhD Professor of Sleep Medicine at Brigham and Women's, unveiled data showing that interns were more alert and made fewer serious errors when they worked shifts of 16 hours rather than the traditional 30, the question was once more raised of how severely the residents' hours should be cut. While the study, published in the October 28, 2004 issue of the *New England Journal of Medicine*, was conducted before the ACGME guidelines took effect, the control schedule it used was similar to the 80-hour workweek that is now mandated for residents. But the new information comes at a time when many teaching hospitals are still struggling with the recent ACGME guidelines and are not prepared to take steps to reduce hours further.

Road Work Ahead



MEDICAL INTERNS WHO WORK

extended shifts of at least 24 hours are more likely to be involved in motor vehicle crashes and near misses, according to a study in the January 13, 2005 issue of the *New England Journal of Medicine*. This latest evidence adds fuel to the debate over resident hours.

The study was conducted by the Harvard Work Hours, Health, and Safety Group, headed by Charles Czeisler at Brigham and Women's Hospital. The researchers conducted a prospective, Web-

based survey of 2,737 interns across the country. "From that analysis," Czeisler says, "we found that for each extended-duration shift they work per month, there was a 16 percent increase in the monthly risk of a motor vehicle crash driving home from work, and they could be scheduled for as many as ten extended shifts per month by current guidelines."

The research team for this study, led by Louro Borger, HMS clinical fellow in medicine at Brigham and Women's, also examined whether each subject was more likely to experience an incident on the road after an extended shift. The analysis showed that interns had more than double the odds of having a motor vehicle accident on the commute home from an extended shift and more than five times the odds of having a near miss than they did after working a shift of 12 hours or fewer.

"The ACGME is the only nationally recognized regulatory body of any kind that continues to sanction 30-hour shifts," Czeisler says. "Unfortunately, this establishes as a notional standard a practice that endangers these trainees as they drive home from work." ■

Keeping residents more alert by ensuring they have adequate sleep seems like a no-brainer, but in fact it raises concerns among many physicians that the change to shorter shifts may ultimately harm patient care. The greatest worry is that shorter shifts will cause errors as patients are handed from one doctor to another, interrupting the continuity of care.

According to Michael Freed, director of graduate medical education at Children's Hospital, residency programs have been moving toward more reasonable

hours for years, but now it is happening in the context of stricter educational standards and increased financial pressures. "There are educational requirements that are getting tightened up by the residency training committees of the ACGME while they are tightening hours," he says. "Medicare is also tightening funding for residents. The hospitals have to sort out all these competing interests." ■

Courtney Humphries is a science writer for Focus.

The Illusive Art of Teaching



HARVARD MEDICAL SCHOOL'S EFFORTS TO integrate medical simulation into the educational process were showcased in a Classroom of the Future exhibit in November. More than 200 attendees from the Council for Harvard Medicine, the 13-School Consortium (a group of major research-centered medical schools), and the Association of American Medical Colleges (AAMC) participated in the exhibit as if they were medical students, taking part in hands-on learning with an array of innovative educational technologies.

The case of the day was asthma. The setup, a blend of a traditional tutorial room and simulator laboratory, featured the usual HMS classroom technology, including a Web-enabled display monitor, along with a hospital bed and patient simulator placed alongside a tutorial conference table and chairs. The electronic patient displayed symptoms, complaining to the "doctors" about shortness of breath.

Participants had to navigate an entire care episode, conducting a real-time interview and exam, considering differential diagnoses and test results, instituting a treatment plan, and communicating with the patient and other providers. They then turned to the traditional class-

room and discussed aspects of the case, exploring relevant sciences down to the cellular and molecular mechanisms. The educational platform MyCourses animated material on the large-screen displays, including annotated diagrams, radiography, virtual microscopy, and gross anatomical specimens.

"In this integrated setting, we can give students a lesson in asthma by incorporating basic and clinical sciences as a unified whole," said James Gordon, HMS assistant professor of medicine at Massachusetts General Hospital and director of the G. S. Beckwith Gilbert and Katharine S. Gilbert Medical Education Program in Medical Simulation. "Here, the traditional tutorial is enhanced by a customized bedside encounter and complemented by the resources of the digital world—all in a single learning space."

Likening medical simulation for students to flight simulation for pilots, Nancy Oriol '79, HMS dean for students, said that the Classroom of the Future

allows for a safe, "practice-makes-perfect" environment. "Students can work on clinical judgment, communication, and action skills as often as needed," Oriol said. "Adding the 'hands-on' care makes the learning indelible. And instead of relying on chance encounters with patients to teach students about particular diagnoses, the Classroom of the Future allows the students to experience a range of clinical cases across age, culture, and gender."

"From an educational standpoint, we would like all medical students to have meaningful experiences that represent the full spectrum of medicine," Gordon said. "But we cannot guarantee that every student will care for someone with severe asthma, for example. Now, with the simulator, students can see virtually any patient in the curriculum, on demand." ■

Leah Gourley is a former editorial assistant with Focus.



MODEL PATIENT: Above: James Gordon (center), HMS assistant professor of medicine, instructs students (clockwise from lower left) Sarah Kempe-Mehl, Karimi Gituma, David Lee, and Henry Delu as they work with a simulated patient. Above left: Nancy Oriol (center), HMS dean for students, and students Wally Bethune (left) and Ben White demonstrate use of the simulated patient.

PRESIDENT'S REPORT



Against All Odds

THIS ACADEMIC YEAR HAS BEEN FILLED WITH TRANSITIONS for HMS. The School's financial constraints, for example, led to staff cuts and offers to senior administrators to take early retirement. Sadly for us, one of those retirees was Nora Nercessian, associate dean for alumni programs and special projects.

Nora deserves much of the credit for organizing and leading the School's alumni office during her 17-year tenure. She left on a high note with the publication of her most recent work, *Against All Odds: The Legacy of Students of African Descent at Harvard Medical School Before Affirmative Action, 1850–1968*. In the book, Nora presents profiles of 85 students of African descent dating back to the first matriculants. Her fascinating, well-received account is now available online (www.hms.harvard.edu/dcp/againstalldds).

To celebrate the manuscript's publication, Joseph Martin, dean of HMS, and Joan Reede, the School's dean for

In closing the day's events, Joan Reede extended her gratitude to those who came to HMS before her, for their courage, sacrifice, and perseverance. "It is because of you that people like me can stand here today," she said. "We stand on your shoulders. The challenge for all of us is to find ways to continue to work together to make the past that has led to where we see ourselves today inform the future."

Nora's last official act was to coordinate the relocation of the Alumni Office from Gordon Hall to spacious new quarters in the Landmark Center on Park Drive (the old Sears Building). Reunion planning and all alumni office functions will be carried out from this location. Sharing space with the Alumni Fund, the Office of Resource Development, and the *Bulletin* in this new location will help build closer relationships and encourage collaborative opportunities, energies, and ideas.

Patrick Rivera, who worked closely with Nora for several years, has assumed leadership of the office. We congrat-



"The memories of living alumni of African descent include some painful experiences, but the outcomes are cause for celebration."

diversity and community partnership, hosted a Diversity Town Forum and celebration. Many African American alumni honored us by returning for the occasion, marking it as a significant event in the School's history. Mildred Jefferson '51, the first female graduate of African descent, attended, as did a dozen other alumni featured in Nora's work and relatives and descendants of six others.

In their preface to the book, Dean Martin and Daniel Federman '53 wrote, "The effort to prepare a complete record of the African American presence at HMS is complemented by autobiographical contributions from living alumni. Their memories include some painful experiences, but the outcomes are cause for celebration."

Gloria Still, a descendant of James Thomas Still—who entered HMS in 1867 and was the third verified student of African descent to graduate from HMS—attended the events with three other Still relatives. "To me," she told those assembled for the celebratory dinner, "the important story is that young people understand that even in the midst of what I call modern-day slavery—whether it's drugs, alcohol, or under-education—the whole story of our family is that people, in spite of adversity, can be free, can be successful, and can soar."

ulate him upon his promotion to assistant director of alumni relations and look forward to working with him.

Finally, we have had to accept the fact that Dan Federman wishes to step down as director of alumni relations. Dan has performed magnificent work as director for the past 12 years—just as he has done in all the roles he has played on behalf of the School over the past five decades. We hope to continue to benefit from his broad knowledge of the alumni, his skill as a fundraiser, and his wise counsel well into the future. Search committee members appointed by the dean and the Alumni Council will announce his successor in the spring.

Despite the challenges such transitions pose, the Council's work persists. We continue, for example, the focus on student indebtedness that the past Council president, Eve Higginbotham '79, initiated last year. The Council has authorized a subcommittee to investigate innovative programs that will benefit students, and Council members will be developing a proposal over the next year or two. ■

Joseph K. Hurd, Jr. '64 is chairman of the Department of Gynecology at the Lahey Clinic Medical Center in Burlington, Massachusetts.

Escape Fire

Designs for the Future of Health Care

by Donald M. Berwick '72 (Jossey-Bass, 2004)

IT IS NOT HARD TO FALL IN LOVE WITH A STRANGER. IT IS MORE arduous, though not impossible, to fall in love with a stranger who is a sober-minded, bespectacled expert in decision analysis and technology assessment—a scholar, physician, husband, and father of four. Nonetheless, I begin with bias: I am in love with someone I have never met, who is himself in love with...Quality Improvement.

Quality Improvement. The words evoke the memory of a roomful of annoyed colleagues. We have received our biannual QI assignments, proofs of intention for hospital re-accreditation. Dutifully, resentfully, we review the charts of paper patients. Are the AIMS examinations up to date? Were pain scale measurements done pre- and post-Tylenol administration? Results are collated into a bar graph. There is a pointed finger or two, which are tossed into a pit filled with other accusing fingers pointing in a dozen different directions, and we are free from QI for another six months.

Then I fell in love with the stranger, or at least, with his thinking. *Escape Fire: Designs for the Future of Health Care*, by Donald Berwick '72, collects a decade of speeches he gave at the Institute for Healthcare Improvement's annual forum about "this nearly derailed, perilously wandering health care industry." The forum began in 1989 with not even 300 attendees, whom Berwick calls, "hardy souls—a fringe element." By 2002, the fringe had grown to 3,500, all weary of an industry filled with "nonsensical, aimless, enervating restructuring, accusation, surveillance, and blame" (translation: the Fingers). Instead, Berwick offers a system of care that would be "better, cheaper, and incidentally more satisfying to work within." He does it with such drama, factual assurance and, when necessary, flagrant silliness, that only an idiot would not sign on the dotted line.

These speeches make the best kind of essays—readable and thinkable. Each forms around a core of some list related to quality improvement. They are like a Christmas carol: eleven strategies to improve performance, ten elements of world-class health care, six ideas for change, five preconditions, four attributes of spread. This is a clever strategy. Lists make the unmanageable seem manageable and the inconceivable possible. They boil years of experience and proof-by-trial into four-word phrases. Add a tune and you start to sing along.

Most of the goals seem so sensible it's hard to fathom why we haven't reached them. Maybe it's because until now no one has listed them so cogently: eliminate unnecessary admissions, tests, and treatments; streamline drug use; decrease waiting time and inventory levels; record—and request—information only once; measure aims over time; and measure for improvement, not judgment. Underneath them all, the unifying goal—and the one most difficult to put into practice—is cooperation. "I want us more than anything else to help each other," Berwick writes. It's this simple wish slipped naked between statistics and technical terms, that gives everything he writes such passion.

Cooperation: a visionary idea. The status quo these days is desolation. Flawed medical delivery is the personal story we all tell eventually. Your medical specialty will not save your brother from dehumanizing care at the end of his life, and it will not save you, either, when you become a patient. Berwick's own distinguished career did not save his father (also a physician) from one humiliation after another when he deteriorated from Parkinson's disease and a hip fracture. It did not save Berwick's wife from one dangerous inefficiency after another when she fell ill with myelitis. The experience, he describes, "was often one of trying to get the attention of decision-makers to correct their...assumptions."

Berwick wants, more than anything else, for us to help each other. But story after story makes help seem hopelessly far away.

On every level, it is grim. Yet Berwick is also

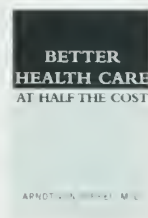
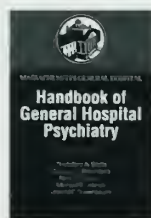
a believer, with statistics to back his optimism. Competition is motivating, but so is what he calls "the performance of systems of interdependency." He can prove it. Signs of promise for medicine—inspiring, effective, sometimes highly amusing signs—emerge in fields as nonmedical as car manufacturing, elementary school soccer coaching, and smokejumping.

But change can be fueled only by constant reminders of ultimate purpose. We are human, we instruments of change, and in the end, self-interest will improve care delivery: you owe it to your father, your spouse, your child, and inevitably, yourself. "We have studied enough," Berwick writes. "We know *how*. Now we must remember *why*."

In one of the last speeches in the book, Berwick teases himself by adding, "You will say that I overinvest my hopes in intrinsic human motives." But this is not overinvestment. This is high, clear vision: using gifts of the mind to honor the soul. ■

Elissa Ely '88 is a psychiatrist at the Massachusetts Mental Health Center and the Boston Health Care for the Homeless Program.





The Last Well Person

How to Stay Well Despite the Health-Care System, by Nordin M. Hadler '68
(McGill-Queen's University Press, 2004)

Hadler, a rheumatologist and professor of medicine and microbiology/immunology at the University of North Carolina at Chapel Hill, believes Americans have given too much power to medicine and lack faith in their own abilities to stay well. He critiques the tendency to turn normal physical distress into illness and questions the efficacy of many expensive procedures, including mammography and cardiac bypass surgery. Staying well, he contends, means being able to cope with life's unavoidable challenges.

Carousel Music

by Rick Moskovitz '73 (Infinity, 2004)

In this novel, psychotherapist Kenneth Miller has been treating Stephanie Whittington for borderline personality disorder for years before she remembers a childhood filled with terror at her father's hands. Her father claims Miller planted false memories and files a lawsuit that drags two families through the courts and toward some hard truths.

State of Fear

by Michael Crichton '69
(Harper Collins, 2004)

Scientists, lawyers, and environmentalists square off in this thriller. Murder and fraud committed across the globe

are tied to a fictional environmental group and their extremist agenda. Crichton tackles the controversies surrounding climate change, taking readers from the glaciers of Antarctica to the jungles of the Solomon Islands.

Massachusetts General Hospital Handbook of General Hospital Psychiatry

by Theodore A. Stern, Gregory L. Fricchione, Ned H. Cassem '66, Michael S. Jellinek, and Jerrold F. Rosenbaum (5th edition; Mosby, 2004)

This book offers a comprehensive guide to diagnosing and treating psychiatric patients. It includes behavioral and cognitive strategies for managing adults and children coping with depression, anxiety, delirium, chronic disease, and more. Twenty new chapters provide updates on psychopharmacology and discuss key issues in geriatric care, hypnosis, and alternative medicine.

Powerful Medicines

The Benefits, Risks, and Costs of Prescription Drugs, by Jerry Avorn '73 (Knopf, 2004)

Avorn, an associate professor of medicine at HMS and chief of the Division of Pharmacoepidemiology and Pharmacoeconomics at Brigham and Women's Hospital, reminds readers that every pill we take—or prescribe—represents a compromise between potential healing, risky side effects, and a daunting price. He offers an insider's view of a future that

includes patient choice, computer-assisted prescribing, and policies that combine the best of conservative and liberal insights.

Better Health Care at Half the Cost


by Arndt Von Hippel '57 (Von Hippel, 2004)

Von Hippel, a long-time surgeon in Alaska, contrasts the original impact, availability, and low cost of penicillin with the high prices garnered for today's new medications, arguing that the pharmaceutical industry's political clout has hurt health care. He advocates for more research into simple, inexpensive remedies; a shorter term on drug patents; and above all, a single-payer system. Packed with anecdotes, data, and suggestions, this book is both conversational and provocative.

What Are Old People For?

How Elders Will Save the World, by William H. Thomas '86
(VanderWyk & Burnham, 2004)

Thomas, a geriatrician, wants to change the pervasive "declinist" view that aging equals loss, which results from measuring "elderhood" with the same yardstick used for adulthood. Elderhood, he says, is a time when emotional functioning improves and people relish diversity, become less self-centered and more altruistic, and increase their powers of adaptation. In upstate New York, Thomas founded the first "Green House"—a group home that embraces the elderly and provides an alternative to institutional care facilities. ■



Hair-Raising Possibilities

FROM THE BEGINNING OF RECORDED history, humanity has engaged in a frenzied quest to regrow hair where it once adorned men's scalps. Hippocrates, the legend goes, favored a topical ointment containing such ingredients as opium, horseradish, pigeon excrement, beetroot, cumin, and nettles. The concoction didn't work, and to this day, the father of medicine is known not only for the oath all new doctors swear, but also for

which could have enormous implications for the treatment of hearing and balance disorders," says the study's senior author, Zheng-Yi Chen of the MGH Neurology Service. "They also show that cells that have been considered incapable of regeneration—like most nerve cells—can reproduce under the right conditions, which may have applications to neurodegenerative diseases."

Named for the hair-like projections on their surfaces, hair cells form a rib-

"These findings give us a potential strategy for hair cell regeneration, which could have enormous implications for the treatment of hearing and balance disorders. They also show that cells that have been considered incapable of regeneration can reproduce under the right conditions."

"Hippocratic baldness," as extreme cases are sometimes dubbed. Recently, however, researchers may have made a revolutionary breakthrough in the science of hair regeneration in the hope of curing not baldness but deafness.

Researchers at Massachusetts General Hospital (MGH) have found that selectively turning off a protein that controls the growth and division of cells could allow regeneration of the inner ear's hair cells, which convert sound vibrations into nerve impulses. The discovery runs counter to current beliefs about these cells and could eventually lead to ways of preventing or treating hearing loss. The report appears in the February 18, 2005 issue of *Science*.

"These findings give us a potential strategy for hair cell regeneration,

bon of vibration sensors along the length of the cochlea, the organ of the inner ear that senses sound. Receiving sonic vibrations through the eardrum and bones of the middle ear, hair cells convert them to electrical signals that are carried to the brain by the auditory nerve. Among the earliest structures to form in embryonic development, hair cells are highly sensitive to damage from excessive noise, infections, and toxins, including some medications. Once damaged, hair cells do not naturally regenerate in mammals, and their death accounts for most types of acquired hearing loss.

Many proteins have been identified as controllers of the different cell cycle phases. Chen's group started by carrying out a comprehensive assessment of which genes are active in the developing mouse ear and when they are

Lethal Forces

MALE DOCTORS TAKE THEIR own lives at a higher rate than the general population of white men

in the United States. That's been known for some time. Now, the latest national study of physician suicide has found that female doctors take their lives even more often.

HMS researchers undertook the study following the suicide of a female medical student at Harvard. Eva Schernhammer and Graham Colditz examined the results of 25 studies of physician suicide and concluded that male doctors killed themselves at a rate 41 percent higher than that of other men and women. The more startling finding was that female doctors take their lives at a rate more than twice (2.27 times) that of the general public.

"We do not yet have a clear answer to why this is," admits Schernhammer, who works at Brigham and Women's Hospital. "There is evidence that depression, drug abuse, and alcoholism, possibly related to stress, are often associated with physician suicide. Female physicians in particular have been shown to have a higher frequency of alcoholism than women in the general population."

Women may feel more stress because of gender bias and an increased need to succeed in the male-dominated medical profession. That seems likely, Schernhammer says, but there have been no conclusive studies to back it up. She also notes that being single and not having children—which is more common among women than men in medicine—"has been linked to higher suicide rates."

The researchers published the results of their investigation in the December 2004 issue of the *American Journal of Psychiatry*. In this report, they cite evidence from other studies that doctors who kill themselves "are more critical of others

and of themselves, and are more likely to blame themselves for their own illnesses."

Other studies conclude that doctors feel uncomfortable turning to their colleagues for help. Instead, they may "resort to alcohol or drugs and isolation. Once they seek help, it appears likely they are not taken seriously enough by their fellow colleagues." One investigation found that more than half of physicians who sought help later took their lives. Although they had all been diagnosed with psychiatric problems, none of them had been hospitalized before committing suicide.

Schernhammer and Colditz believe that the underlying risk factors for female physicians' suicide—such as depression and psychiatric disorders—could make them logical candidates for prevention programs.

The researchers recommend that the higher risk of suicide among physicians, particularly female physicians, be recognized nationally. They suggest that more studies be conducted to determine the causes of the suicides and to find ways to prevent them. And, Schernhammer adds, "on open discussion of the stress encountered in medical careers is critical for successful early recognition of impairment and risk of suicide." ■

William Cromie is a writer for the Harvard Gazette.

expressed. The activity of certain genes suggested that the retinoblastoma (Rb) protein, known to suppress the cell cycle, could be important for halting the cell cycle in hair cells. The researchers then used a genetically modified mouse strain in which Rb was no longer made in the inner ear.

The investigators found that hair cells in the ears of these mice were significantly more numerous than in normal mice at the same stage of development. These additional cells retained the distinctive appearance of hair cells, performed functions characteristic of normal hair cells, and appeared fully able to form proper connections with nerve cells. In addition, hair cells in the modified mice made proteins that indicated they were still actively regenerating, while cells in normal animals did not.

The researchers note that these findings will form the basis for future work aimed at recovery of hearing through hair cell regeneration. In particular, they have to learn to control the presence of Rb for short times, allowing some regeneration but not too much. The genetic basis of hearing and deafness is almost identical in mice and in humans, so a successful mouse model may ultimately translate into therapy in human patients.

"It's taken over ten years of work to show that hair cells can regenerate in tissues, and I hope it won't take another decade to achieve functional regeneration in a living animal," says Chen, an HMS assistant professor of neurology. "But my hope and belief is that, if we can do this in mice, we'll be able to achieve it in people." ■

Threading the Maze

CONFRONTED WITH A NEW construction project on a normally clear street, the average driver will detour around the traffic jam or plot a different route for the next day's commute.

In devising this strategy, one region of the brain seems to take charge of sensing setbacks and switching to a new course of action. The findings, the first direct human evidence of this localized function, are reported in the December 2004 issue of *Nature Neuroscience* by a group of neurosurgeons and psychiatrists at Massachusetts General Hospital.

The findings come from neuronal recordings of five people who consented to take a few minutes during delicate surgery on their brains to move a joystick to the left or right in response to simple commands on a computer screen. For the experiment, "\$\$\$\$\$" flashed on the screen every time patients correctly moved the joystick, rewarding them the highest prize (15 cents) and telling them to repeat the same move. A double arrow, "↔," indicated a direction change to win the same top prize. Occasionally, "\$\$\$" would pop up, yielding a reduced reward (9 cents) and telling the subjects to change direction for the higher incentive.

The patients performed the tasks before and after a rare procedure called a cingulotomy. The operation had no relationship to the experiment except that, with the patients' consent, it afforded access to a specific region of the brain and a chance for direct evidence of the region's function. A cingulotomy ablates the tiny area known as the dorsal anterior cingulate cortex. The same thin microelectrodes that helped Ziv Williams, HMS clinical fellow in surgery, and Emad Eskandar, HMS assistant professor of surgery, precisely define the surgical site also recorded the activity of individual neurons during the brief experiments.

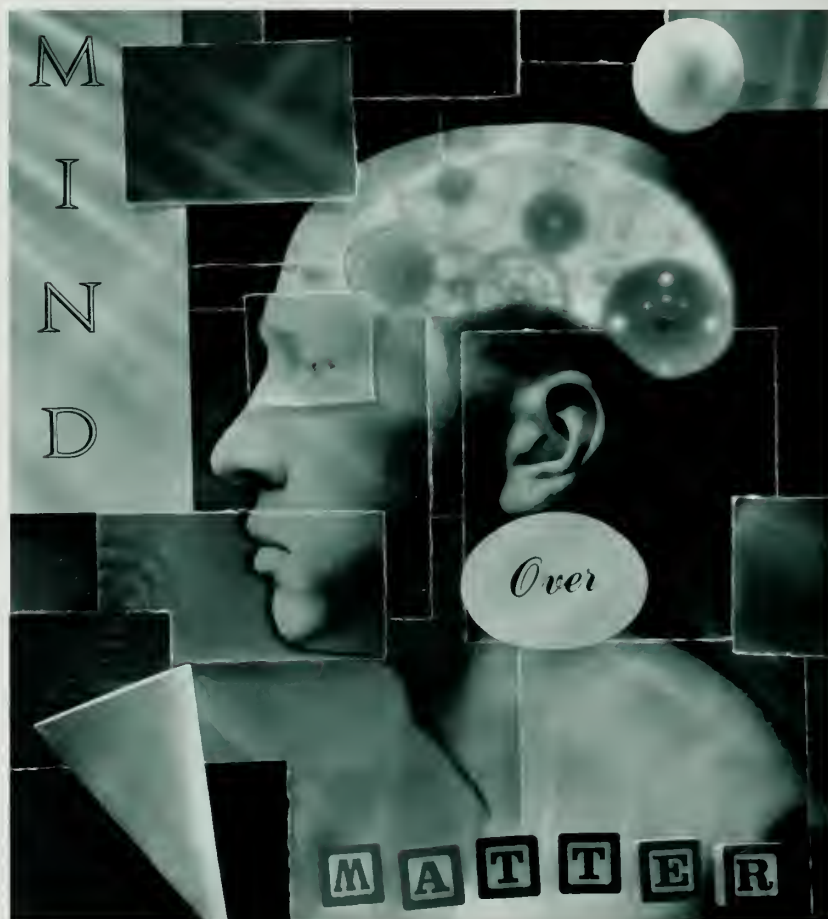
The surgery is a last-ditch effort to treat severe depression, obsessive-compulsive disorder, and bipolar affective disorder when all else seems to have failed. Even in these cases, the problem likely resides not in the cingulate, which the study authors believe to be comparatively normal in these patients. Instead, the surgical lesion may disrupt a nearby circuit, leading to gradual clinical benefits three to six months later, presumably emerging as the brain adapts, said co-author Scott Rauch, HMS associate professor of psychiatry.

Of the total 134 neurons recorded across the five patients, about one-third reacted to the direction change signals. Most of these were stimulated

by the \$\$\$ reduced-reward cue. Interestingly, the neurons began firing about three seconds before anyone moved the joystick, predicting when people would correctly change direction after seeing \$\$\$, said Williams, first author of the paper.

Other convincing evidence that these neurons are important to this error-monitoring behavior came from data collected after the cingulotomy. Patients showed a dramatic reduction in changing joystick direction in response to the \$\$\$ signal, compared to prompts by the neutral ↔. There was no change with \$\$\$\$\$.

"That tells us they were impaired in their capacity to perceive the reduced



reward and to change behavior accordingly," says Eskandar, the senior author. "Somehow, the cingulate is important in telling a person that a previously fruitful or productive activity is now less so. It may be the part of the brain that tells you something is not working anymore and it's time to try something new."

The findings add a new layer of evidence to earlier noninvasive imaging studies, which have implicated this part of the cingulate in detecting errors, monitoring personal conflicts, and performing new behavior.

Eskandar and his colleagues also have applied their pioneering intraoperative recording techniques to explore the pathology behind Parkinson's disease. In the December 15, 2004 issue of *The Journal of Neuroscience*, they report how an experimental task briefly disrupts the pathological signals in the diseased area of the brain.

The Parkinson's study took place in the midst of a therapeutic procedure to implant an adjustable electrode to reduce or modify the abnormal neuronal activity underlying the disease. When the 11 consenting patients used a joystick to guide a green dot to its target on a computer screen, the characteristic abnormal electrical bursts in the dopamine-starved cells of the subthalamic nucleus took on a more normal firing rate. The study was led by Ramin Amirnovin, HMS clinical fellow in surgery.

One limitation of the studies is the likely stressful surgical setting. "It's a complicated process," Williams says. "We don't presume to know how people are able to make strategic decisions, but we think this area of the cingulate plays a significant role in linking those two parts of the world, perception and action." ■

Carol Cruzan Morton is a science writer at Focus.

RN Rx

Since 1976, the Nurses' Health Study—conducted at the Channing Laboratory of Brigham and Women's Hospital—has helped identify important risks in women's health. The following studies offer additional findings:

WEIGHTY EVIDENCE

Researchers have found more evidence that weight plays a key role in breast cancer survival. The study, appearing in the January 31, 2005 online issue of the *Journal of Clinical Oncology*, finds that women who maintain a healthy weight before diagnosis and avoid weight gain after treatment may have improved survival rates compared with women who are overweight or obese prior to diagnosis or who are lean and gain weight after diagnosis.

"It is widely recognized that postmenopausal women who are overweight face a greater risk of developing breast cancer," says lead author Condyce Kroenke. "This large study of more than 5,000 women shows that avoiding weight gain may be important to survival once a woman is diagnosed."

FEAR FACTOR

Researchers have noted that high levels of phobic anxiety have been associated with elevated risks of coronary heart disease (CHD) death and sudden cardiac death (SCD) among men—yet no such association has been investigated among women. Researchers at Brigham and Women's Hospital and Massachusetts General Hospital, in an analysis of Nurses' Health Study data, found that women who experienced phobic anxiety—such as the fear of crowded places, heights, or of venturing outside—were more likely to experience SCD or CHD than women who did not. Their findings appear in the February 2005 issue of *Circulation*.

According to lead author Christine Albert, "Physicians probably should consider that women who suffer from phobic anxieties are at elevated risk of death from heart disease and should, at the very least, try to control their other potential heart disease risk factors." Phobic anxiety is twice as prevalent among women than among men.

TEMPERING TEMPERANCE

The adverse effects of excess alcohol consumption are well established, yet the health effects of moderate consumption—one drink of wine, beer, or liquor—are not clear. Researchers found that compared with women who were non-drinkers, older women who consumed one drink per day experienced a 20 percent reduced risk of cognitive impairment. These findings appear in the January 20, 2005 issue of the *New England Journal of Medicine*.

"Much evidence has demonstrated the heart benefits of light alcohol drinking, but less research has focused on cognitive functioning," says senior author Francine Grodstein. "While we will continue to recommend exercising caution when consuming any type of alcohol, our study suggests that moderate consumption might provide older women with some cognitive benefits. Additional research needs to be conducted to understand the links."





Pride &

Harvard Medical School students of African descent inherit a legacy that predates the advent of affirmative action by more than a century.

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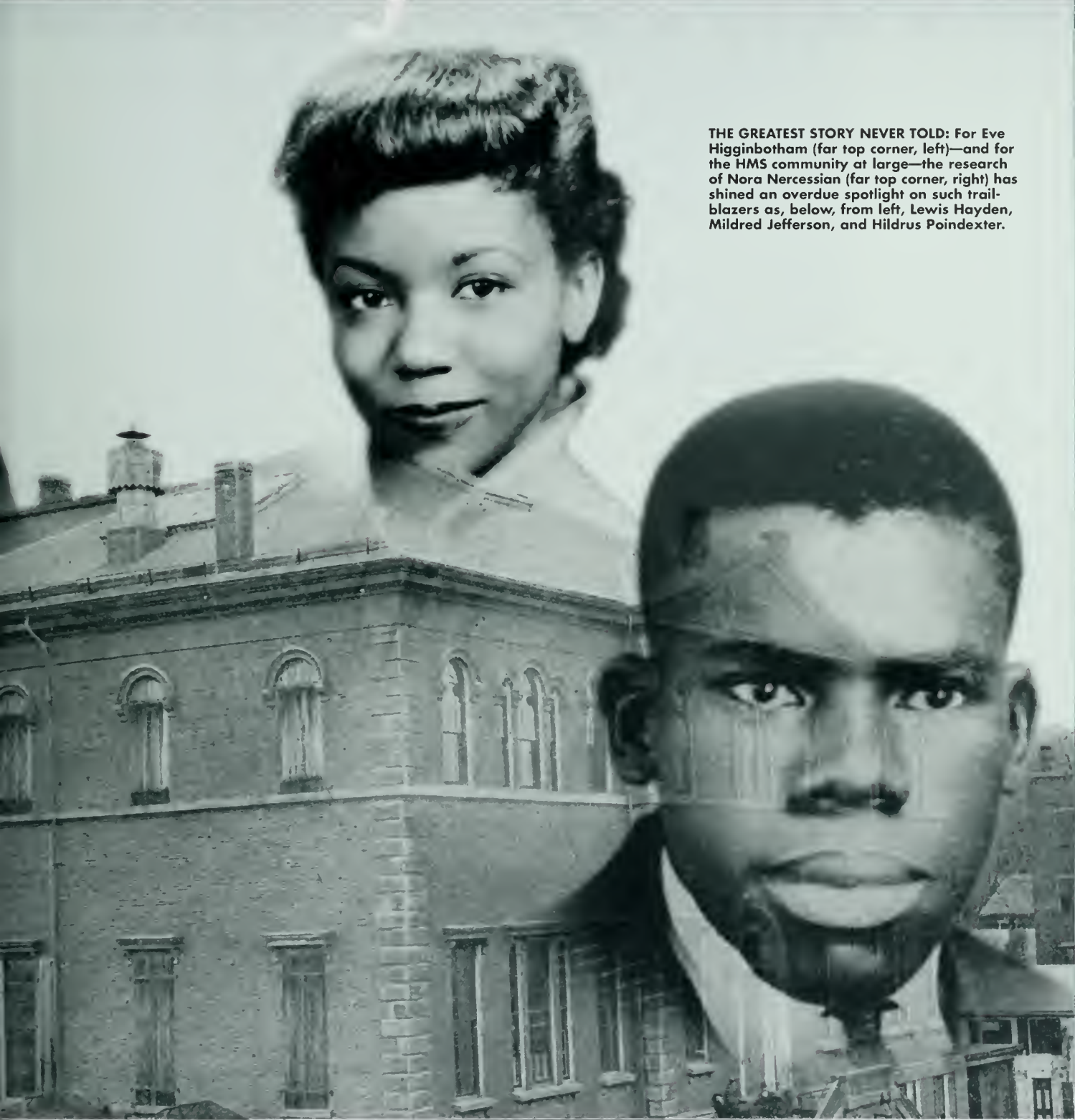
HEN THE COLOR BARRIER at Harvard Medical School finally broke in the fall of 1850, the city of Boston was already in the grip of a race-related drama. That controversy had begun in stealth more than a thousand miles to the south, where William and Ellen Craft had hatched an ingenious ruse to escape their slave owners. The light-skinned Ellen disguised herself as a sickly white man whose faithful slave, William, was accompanying his master north for medical treatment. Ellen cut her hair short, altered her gait, and swaddled her jaw in bandages to mask her lack of facial hair. To hide her illiteracy, she kept her right arm in a sling, which furnished her with a credible excuse for being unable to sign any papers.

Interview by EVE HIGGINBOTHAM



Prejudice

THE GREATEST STORY NEVER TOLD: For Eve Higginbotham (far top corner, left)—and for the HMS community at large—the research of Nora Nercessian (far top corner, right) has shined an overdue spotlight on such trailblazers as, below, from left, Lewis Hayden, Mildred Jefferson, and Hildrus Poindexter.



When I asked around, the responses were vague students of African descent had attended HMS

Their journey eventually took the runaway slaves to Boston, where they found safe haven. But when word of their new life trickled back to Georgia, their former owners dispatched two slave hunters to recapture the Crafts. The Fugitive Slave Act had recently become law, threatening heavy fines and even jail time for police and private citizens who failed to help catch runaways. The arrival of the slave hunters threw Boston into turmoil.

Several days earlier, a series of events that would send Harvard Medical School into its own turmoil had begun quietly as well, in the form of a letter to the dean. Oliver Wendell Holmes, Class of 1836, received first one, then a second petition, to admit two men of African descent to the School. With the controversy over the Crafts raging in the city, the faculty voted to admit Daniel Laing, Jr., and Isaac Snowden.

Shortly after their vote—and just two weeks after the Crafts had safely boarded a ship bound for England—a third applicant of African descent, Martin Robison Delany, appeared in the dean's office. By the end of the meeting, Holmes had accepted the young man's petition for admission.



OPTIMAL ILLUSION: To escape her slaveowner, Ellen Craft posed as a sickly white man traveling north with his faithful slave—in reality, Ellen's husband, William.

But before the winter term was halfway completed, the presence of the three students of African descent caused the School to erupt in controversy. A handful of medical students had begun a campaign to oppose the admission of a female applicant—Harriot Kezia Hunt—and to expel the students of African descent. Despite the support of most of the students for their classmates of African descent, the campaign ended with Hunt's application refused and the three men expelled.

The stories of Laing, Snowden, and Delany—and the history of other matriculants of African descent at HMS before affirmative action—unfold in a book recently issued by the School, *Against All Odds: The Legacy of Students of African Descent at Harvard Medical School Before Affirmative Action, 1850–1968*. Eve Higginbotham '79 interviewed the book's author, Nora Necessarian, now the retired associate dean for alumni programs and special projects at HMS, to learn more.

Higginbotham: What inspired you to write the book?

Necessarian: Well, for a good many years reporters, government officials, and historians had been calling me

1782 Harvard Medical School is founded in the basement of Harvard Hall in Cambridge, with three professors presiding over two students. Their teaching tools include a microscop, a human skeleton,



and a set of human veins and arteries pumped up with wax.

1839 Bertrand François Bugarid may have become the first HMS graduate of African descent, according to information uncovered in Nora Necessarian's *Against All Odds: The Legacy of Students of African Descent at Harvard Medical School Before Affirmative Action, 1850–1968*. The clues, although compelling, have not been confirmed.

1850 Three men of African descent—Daniel Laing, Jr.; Isaac Snowden; and Martin Robison Delany, the "Father of Black Nationalism"—petition to take lectures at HMS. A small but vocal group of HMS students protest, complaining that they will not be identified as peers "with blacks whose company we would not keep in the streets, and whose society

as associates we would not tolerate in our houses." The faculty refuses to succumb to the student pressure, and the three men, who have already bought tickets to the lectures, are allowed to attend. But on December 26, the faculty reverses its vote, and the three black pioneers are barred from continuing their medical studies after the first semester.

Maybe ten, at best twenty, before affirmative action.

with the same set of questions: When did Harvard Medical School admit the first student of African descent? Who was that first graduate? And how many such students had matriculated before affirmative action?

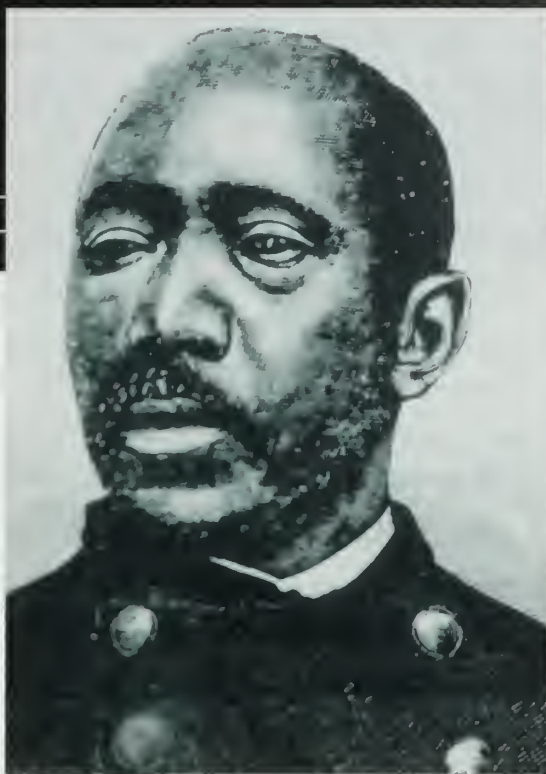
At first I had no answers. When I asked around, the responses were vague. Maybe ten, at best twenty, students of African descent had attended HMS before affirmative action, for example. Of course, that's not the kind of answer you give reporters or government officials or historians and expect to be taken seriously. I knew those questions could only be answered through research.

As I delved, one name after another emerged, then archival materials and newspapers turned those names into people. Eventually the material amounted to a catalogue of spectacular achievements by heroic people who simply wanted to be the best doctors they could be.

I had originally intended to record only a list of people and graduation dates. But as I dug deeper, I had to make a decision. I could toss all those powerful biographies into a desk drawer and let them molder. Or I could bring that information to light to enrich the history of the School and even the history of medicine.

Higginbotham: Which of your discoveries most surprised you?

Nercessian: The number of people of African descent who matriculated at HMS before affirmative action—



RENAISSANCE MAN: In 1850, HMS expelled Martin Robison Delany, but his multiple talents as a physician, author, and civil rights activist led some, more than a century later, to regard him as the Malcolm X of his day.

instead of the dozen or two everyone expected, I found at least 85. Surprising, too, was the number of early postgraduates training at Harvard-affiliated hospitals—43.

Higginbotham: Edwin C. J. T. Howard has long been noted as the first student of African descent to graduate from the School, in 1869. But you discovered he wasn't the only one in that class.



Howard

1869 Four years after the end of the Civil War, Edwin C. J. T. Howard and Thomas Darsey became the first confirmed HMS graduates of African descent. Howard spends his career in Philadelphia, where he distinguishes himself during the city's smallpox epidemic in 1870 by not losing a single patient to the disease.

1877 Edward Jackson Davis, Class of 1899, becomes the first holder of the Hayden Fellowship at HMS. This first scholarship fund for black students at HMS was named in honor of Lewis Hayden, who had sheltered runaway slaves Ellen and William Craft. Hayden's widow, Harriet, bequeathed her estate to Harvard to found a scholarship "for the benefit of

poor and deserving colored students" with the stipulation that "a medical student is to be preferred." An essayist, reflecting nearly two decades later, noted the irony. That Harvard should be, he wrote, "endowed by an old slave woman from Kentucky is food for reflection." Davis was one of at least 23 students who were able to study at HMS thanks to the Hayden largesse.

W

hen Poindexter explained that he had slammed the door, muttering, "I'm not

Nercessian: In fact, he wasn't even the first to get up on stage to receive his diploma—that was Thomas Dorsey. The little we know about Dorsey is that soon after graduation he moved to Washington, DC, where he practiced medicine for about 25 years.

We know much more about Howard. When he practiced in Philadelphia, for example, he lost not a single patient during the city's smallpox epidemic in 1870. That same year, the governor of Pennsylvania appointed him the surgeon of a brigade of black militiamen.

Howard later played a critical role in establishing the Frederick Douglass Memorial Hospital—at the time, the only hospital in Philadelphia serving African Americans. A decade later, he helped found Mercy Hospital, in large part to address the lack of clinical training opportunities for the growing number of black men graduating from medical school.

Higginbotham: *Your book features so many remarkable people. Do any particular stories stand out for you?*

Nercessian: It's hard to choose, because I found one leader after another. A grandson of runaway slaves, for example—James Thomas Still—became Boston's most respected black physician after graduating in 1871. His medical practice primarily served the black population of Boston. He also provided leadership for the Home for Aged Colored Women. Many of his patients were too



NO SURRENDER: When slave hunters demanded that Boston abolitionist Lewis Hayden give up William and Ellen Craft, the runaway slaves he was harboring in his home, he refused. Later, in his honor, his widow created the first scholarship fund for black students at HMS.

1905 Black students at HMS customarily arrange for referrals from the black physicians of Boston and Cambridge, because the Schaal requires its students to handle a certain number of abstretical cases, yet many white patients at nearby clinics refuse to be treated by black students. HMS Dean William Richardsan calls these "circumstances which are

beyond the jurisdiction of the Schaal, and which ather colored students have heretafare cheerfully accepted." A young black HMS student, E. D. Brawn '08, acknowledges that HMS cannot force patients to accept an unwanted intern but petitions the dean "ta put it up ta the patients and leave me ta face whatever difficulty might arise."

1912 William Augustus Hinton, a pioneering syphilologist and the first black American ta publish a medical textbaak, graduates from HMS. Although he has maintained an outstanding scholastic record, he is denied a pasitian at the Harvard teaching hospitals. He

begins valunteering in the Department of Pathalogy at Massachusetts General Hospital, where he performs autopsies an patients knawn ta have had syphilis ar suspected of having had the disease. He saan establishes himself as a national authority an the seralogy of syphilis.



Hinton

come to assist in delivering the baby, the man going to let any Negro put his hand on *my* wife.”

poor to pay him, and when he died he had little to leave his family, so he was buried in the same public cemetery as many of the women he had helped at the Home.

I found the story of Hildrus Poindexter '29 moving as well. In the beginning of his career, the U.S. Public Health Service denied him a job because of his race; later he became one of its leaders. In his autobiography, Poindexter wrote a telling story about his early career—and the kind of challenges many of these early graduates faced. Poindexter had received a call in the middle of the night: an East Boston woman had gone into labor and needed immediate assistance. So he knocked on the door at three in the morning. The man of the house, upon seeing a black person standing at his threshold, rudely asked what he wanted. When Poindexter explained that he had come to assist in the delivery, the man slammed the door, muttering, “I’m not going to let any Negro put his hand on *my* wife.”

Poindexter was walking away when a policeman stopped him and asked what he was doing in that neighborhood at that hour. After hearing his story, the policeman asked Poindexter to accompany him back to the home. “If your wife is in labor,” the policeman told the father-to-be, “she needs all the help she can get and since this Negro has the sponsorship of Harvard Medical School, he must be all right.”

Poindexter delivered the baby, and the husband ended up apologizing for his earlier behavior. But that

anecdote reveals how much Poindexter had to overcome, making his achievements all the more remarkable.

Stories about Frederick Douglass Stubbs '31 are inspiring as well. He became the first African American to be appointed to the housestaff of any major teaching hospital in the country. His first day in the hospital, when he sat down at a half-empty table in the cafeteria, several doctors left abruptly, but Stubbs met their ostracism with equanimity—just as he’d always done. By the time he died at the age of 41, he had enjoyed brilliant careers as both a surgeon and a community activist. *Time* magazine praised him and medical journals praised him, but his life was tragically cut short by a heart attack.

For a more recent example, almost 20 years ago John Anane-Sefah '70 returned to his native Ghana, where he started a clinic dedicated to the memory of his mother. He takes teams of physicians there every year. That’s the kind of national and even international leadership I kept finding: great accomplishments achieved quickly, with enormous dignity. The stories were extremely humbling.

Higginbotham: *How did you go about uncovering all this information?*

Nercessian: No single, comprehensive source existed, so I started with the most obvious as a launching pad, the School’s yearbook. But that wasn’t altogether reliable. Then I combed the archival material in the rcg-

1915 Louis Tampkins Wright, who later becomes the director of surgery at Harlem Hospital and the first black police surgeon in New York City, graduates from HMS. While a third-year student, he learns he cannot perform deliveries at the Boston Lying-In Hospital because he is “colored.” Wright is outraged; his classmates support him, and he



Wright

ends up participating in the obstetrical rotation.

1927 After decades of graduating no more than one student of African descent per year (and frequently none at all), HMS confers degrees on three in one year—a record that is not bested until 1973, when affirmative action has made its impact.

1949 William Hinton '12 becomes the first person of African descent to attain a full professorship at HMS—one year before his retirement. Near the end of his life, he creates a scholarship fund in honor of his parents, who, he wrote, “...although born in slavery and without formal education, nevertheless practiced the principle of equal opportunity for all.”

noticed a reference to the presence of a black matriculants. That immediately sparked my

istrar's office. Race wasn't recorded, so I pored over thousands and thousands of old registration cards for clues about which graduates might have been of African descent—for example, if a person had received a Hayden Scholarship, which was exclusively for students of African descent. One source that was extremely helpful was the *African-American Biographical Database*. But it didn't list everyone. I stumbled upon Thomas Dorsey's name, for example, in *The Black Aristocracy*.

One of my biggest challenges was identifying the very first student of African descent at HMS. The assumption had always been that Daniel Laing, Isaac Snowden, and Martin Delany were the first to matriculate. But while reading one of the student petitions that was circulating at the time of their expulsion, I noticed a reference to the presence of a black student a dozen years earlier. That immediately sparked my interest—and led to weeks of additional research.

I finally found sources hinting that Bertrand François Bugard, Class of 1839, may have been of African descent. Bugard's name suggests some French ancestry, but his decision to return to his native Haiti when he did hints at some African ancestry as well. After some bloody conflicts, Haiti remained inhospitable to the French throughout the nineteenth century, and it would have been unlikely that a man exclusively of French descent would have lived there at that

time. Yet mixed-race descendants of the French rulers and African slaves—who, during French rule, enjoyed the privileges of land and education—constituted a significant proportion of the population.

By the time Bugard returned home after graduating from HMS, Haiti was united under a mixed-race president. Bugard was likely descended from this segment of the population and was probably the unnamed "black" who had graduated from HMS before the first confirmed students of African descent matriculated in 1850. But I couldn't confirm that theory, and I had to let it go, to my profound disappointment. It has haunted me—that and the fact that I couldn't uncover more information about Thomas Dorsey.

Higginbotham: *These individuals must have all had a remarkable drive to keep going against such tough odds.*

Nercessian: Drive they had. But I would go beyond drive; collectively, their histories point to extraordinary levels of achievement.

Higginbotham: *Besides original sources, where else did you turn to find your information?*

Nercessian: I had help from so many directions. Sometimes I needed to ask archivists sitting in other states for assistance in finding photographs, and even

1951 Mildred Jefferson becomes the first woman of African descent—and the first female surgeon—to graduate from HMS. When she was five, Jefferson would tag along with a family physician on his rounds, peppering him with questions and noting that his visits always seemed to make his patients get better. One day she declared that she, too,



Jefferson

wanted to be a doctor, and he replied, "You go right on ahead." "I didn't know there were odds against what I was doing," she will say, decades later. "I just made a list of three medical schools and applied."

1968 On April 4, Martin Luther King, Jr., is assassinated. Within three days, HMS

junior faculty members Jonathan Beckwith and Edward Kravitz organize a small group to respond to the "moral crisis." Nine faculty members sign a proposal to create an affirmative action program. On April 26, following debate about the feasibility of a "quota," the proposal is approved at a faculty meeting. Within one month, the faculty is

student a dozen years before the earliest known interest—and led to weeks of additional research.



STILL WATERS RUN DEEP: One of the first HMS graduates of African descent, James Still was the brother of William Still, known as the father of the Underground Railroad.

though they were extremely busy, they dug in. At first, many people in the traditionally black colleges were incredulous. They would say, “Oh, no—no African

American from here would have gone to Harvard Medical School.” But when they found it was true, they’d say, “My God, he actually went there?”

Higginbotham: *You’ve spent a lot of time with alumni from before affirmative action, as well as with the descendants of many of the early graduates. What have their reactions been to the stories you’ve uncovered?*

Nercessian: Extremely positive. I’ve received a huge number of moving letters. And every time a graduate would call to thank me, I found myself getting more emotional. I started asking them, “Why are you thanking me? I didn’t do the work—you did.” I just refocused a blurry lens on the historical moment.

Higginbotham: *Did you encounter any reluctance on the part of living alumni?*

Nercessian: A few were skeptical initially because they’d had painful experiences at the School, but in the end only two declined to be included. I had asked all the living alumni to write autobiographical sketches, and at least 30 ended up doing so, including the postgraduates. The power of those narratives often left me speechless.

Higginbotham: *You have an interesting passage in the book about what Toussaint Tildon ’23 might have thought when he*

presented with a committee report that calls for the establishment of “at least 15 scholarships for disadvantaged students.” The decision is made to increase class size from 125 to 140, so there will be no reduction in the number of places available for non-minority applicants. Ultimately, the School enrolls 16 students of African descent in the Class of 1973.

1969 The HMS Office of Recruitment and Retention is established. Although the School initially focuses on increasing black representation, it soon broadens its efforts to include other underrepresented groups, such as

Native Americans, Mexican Americans, and Puerto Ricans. Alvin Poussaint joins the HMS



Poussaint

faculty in time to welcome the Class of 1973. He goes on to play, as faculty associate dean for student affairs, a pivotal mentoring role

for students and colleagues, a role he continues to this day.

1972 Between 1782, when the School was established, and 1972, when the last class of students admitted before affirmative action received their degrees, only 61 of 13,108 graduates were of African descent. Another 21 had left without their degrees.

Enrichment comes only through humanization you fail to acknowledge someone's dignity,

stood on the steps of Building A, taking stock of the Quadrangle. Can you tell us more about that passage?

Nercessian: Tildon arrived at HMS from the South in 1919, at the height of the Jim Crow laws. The spring and summer before, he had witnessed incredibly bloody race riots. And as if that weren't enough, Harvard College had become caught up in a series of enormous controversies, ranging from the banning of black students in freshmen dormitories to the membership of some white undergraduates in local Ku Klux Klan chapters. Tildon was the only African American at the Medical School at the time, and I wondered how he felt as he stood on those steps, surrounded by marble structures, looking out over a beautifully landscaped lawn. What moved him? What motivated him? All I know is that he ended up returning to the South and becoming one of the most prominent physicians in the country after attending the School at a particularly painful moment in the history of our country and in the history of our institution.



BAR NONE: Toussaint Tildon overcame racism to achieve national prominence as a physician.

Higginbotham: How has working on this book changed your perspective on the School's history?

Nercessian: I understand so much better what growing pains the School has experienced and how it has really evolved.

Higginbotham: You've certainly enriched the School's history by shedding light on the accomplishments of extraordinary individuals who had largely been hidden.

Nercessian: Enrichment comes only through humanization and the recognition of the dignity of everyone. Once you fail to acknowledge someone's dignity, you've lost your own. For me that's very important.

That's true for the women as well.

There are so many achievers among them and yet, when women were finally allowed to enter the hallowed halls of the Medical School in 1945, they were warned that it was for a ten-year trial period. If they didn't make it, then the doors would once more be shut against women.

I don't think historians should sit in judgment of the past. On the other hand, unearthing moments of histo-

1976 The School's affirmative action program weathers a painful attack in the *New England Journal of Medicine* by an HMS faculty member who questions whether standards are being stretched to award diplomas to students "unable to handle the material." Deon Robert Ebert responds with a public defense of the competence of the minority students

and the integrity of HMS standards. His statement concludes, "The medical school reaffirms its commitment to the education of able minority students."

1978 HMS Deon Daniel Tosteson '49 convenes a committee to ensure that the School's minority admissions policies are congruent with the U.S. Supreme Court's long-

standing Bokke decision. After HMS officials learn of the School's precarious legal standing, they create a process that allows the admissions committee to pay special attention to race and adversity through a subcommittee system. Applicants then enter a merged competition in which the main admissions committee makes the final determination on all

candidates. This process helps HMS admit a diverse class every year.

1983 The organization that will become the Hinton-Wright Society is founded to serve as a research society for minority HMS students and to introduce younger members of the minority community to biomedical research opportunities.

and the recognition of the dignity of everyone. Once you've lost your own. For me that's very important.

ry can only enrich the present and make it less monolithic or doctrinaire.

Higginbotham: *What has the ultimate legacy of these pioneers been?*

Nercessian: If I were to choose one word, it would be *leadership*. Each, in his or her way, chose the path of leadership, almost in every case over traditional options. And that was no minor feat.

Higginbotham: *And what would you say are some of the broader cautions for the future?*

Nercessian: Well, the School does a great job in terms of achieving diversity at the level of student admissions, but diversity needs to increase at the faculty level—as well as at the affiliated institutions.

Higginbotham: *While medicine has diversified to some extent, we have much further to go, and Harvard must continue to be a leader in that diversification, particularly when we've just celebrated the fiftieth anniversary of Brown vs. Board of Education and continue to confront the question—now that we've mapped the human genome—about whether race has any biological significance. So the timing of your book is meaningful, as we reconsider some of the basic issues that drove the United States into an abyss of discrimination and injustice.*

Nercessian: I wanted to ask you, Eve, as an alumna of African descent, what were your own responses to reading the book?

Higginbotham: *The word that best characterizes my response is pride. I felt proud to read about people who preceded me and excelled at such high levels, not only in getting through Harvard Medical School, but in contributing to society so significantly.*

Nercessian: And if James Thomas Still were sitting here with us today, what would you ask him?

Higginbotham: *How did you do it? How did you get through each day when people didn't even want to be in the same room with you? When everyone questioned everything you said at every turn? And when you didn't have anyone to share your experiences with?*

Nercessian: And how do you think he would have answered?

Higginbotham: *Because he was meant to be there, that that's why he was placed on this earth—to get the best medical education possible so he could serve others. ■*

Visit www.hms.harvard.edu/dcp/againstallodds to view *Against All Odds* in its entirety online.

1988 The Caleus Society is founded to foster closer ties among underrepresented HMS graduates. The society takes its name from the multicolored, enduring caleus plant.

1998 HMS Dean Joseph Martin states, "Diversity in our programs is not a question of fairness, but a question of quality—the quality of our educational

programs, the quality of care in our medical community, and the quality of our research endeavors. A more diverse and culturally representative medical community practices higher quality medicine and addresses research issues more comprehensively."

2004 HMS convenes a Diversity Town Forum and dinner to celebrate the publication



Descendants of James Thomas Still, Class of 1871, celebrating *Against All Odds*

of Nara Nercessian's *Against All Odds*. Attending are alumni

of African descent, as well as the descendants of six of the earliest alumni of African descent. Since 1973, HMS has graduated more than 800 underrepresented minority students. While African Americans now make up 13 percent of the student body, only 3 percent of the School's faculty members are people of color, an issue of ongoing concern for HMS.

Medical genealogical research helps one physician link himself to a long tradition of healers.



Taking a History

BY MICHAEL
LACOMBE

My great-aunt the gynecologist once lifted her dress to reassure a skeptical patient that she, too, was a woman. Another aunt, in the heat of university politics, was murdered. A distant uncle assisted his queen in poisoning her husband, and a forefather many generations removed manipulated a king into relinquishing his young queen to her stepson. These were some of the surprises I unearthed when I began tracing my medical lineage.



Alice Hamilton

David Edsall

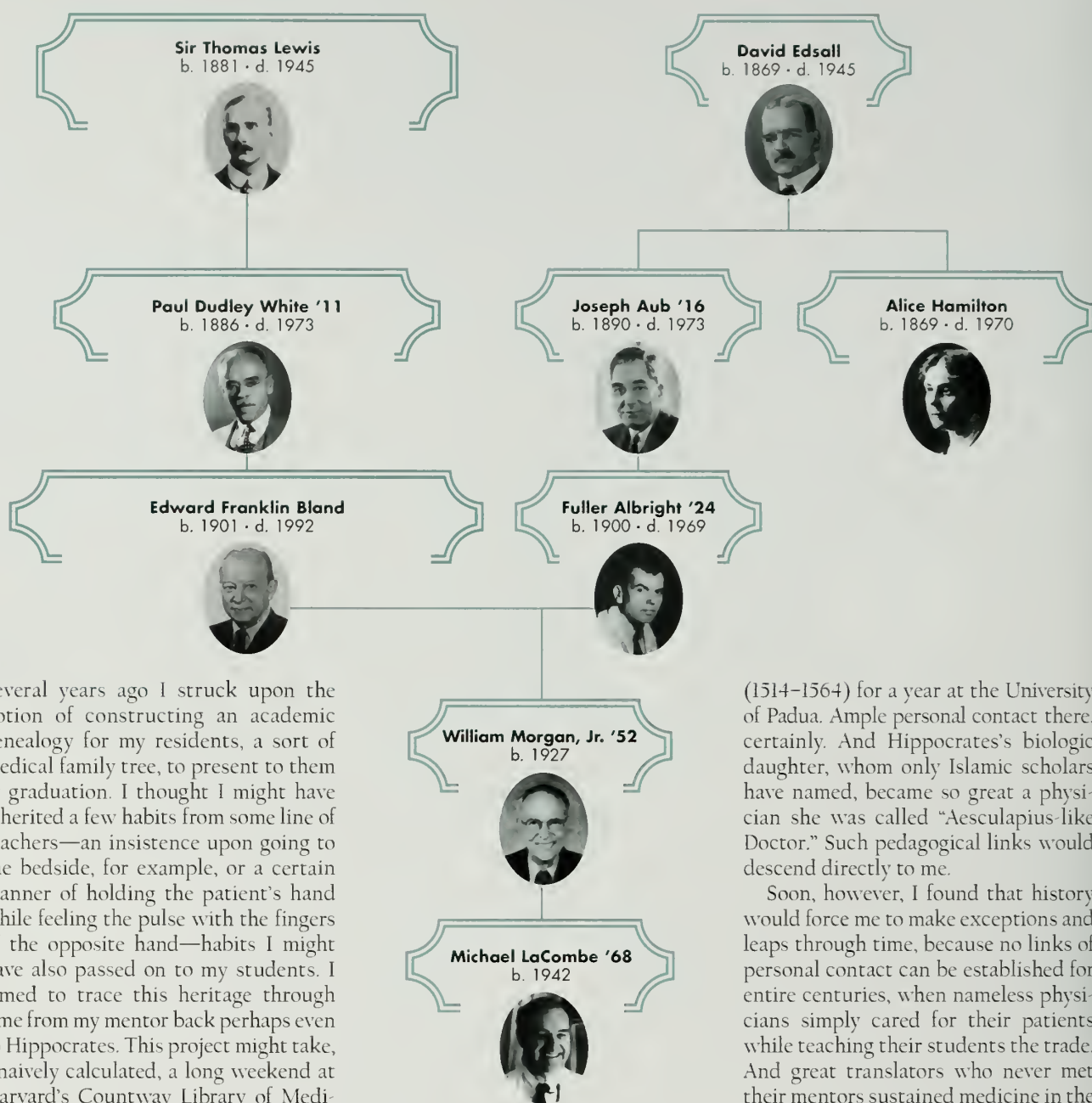
Fuller Albright

Paul Dudley White

Hypatia

Hippocrates

A Medical Lineage



Several years ago I struck upon the notion of constructing an academic genealogy for my residents, a sort of medical family tree, to present to them at graduation. I thought I might have inherited a few habits from some line of teachers—an insistence upon going to the bedside, for example, or a certain manner of holding the patient's hand while feeling the pulse with the fingers of the opposite hand—habits I might have also passed on to my students. I aimed to trace this heritage through time from my mentor back perhaps even to Hippocrates. This project might take, I naively calculated, a long weekend at Harvard's Countway Library of Medicine, with perhaps a few weekday afternoons thrown in, and I would be finished. That was three years ago, and I am still far from done.

At the beginning of my undertaking, I must confess, I yearned to be related to the great William Osler. But I never could establish that link and had to content myself with such "relatives" as I could honestly own up to. After all, I had to follow some rules—even if they were rules of my own making—for the genealogy to be legitimate, both for

me and my students. That Osler had worked in the same hospital with three of my "ancestors"—Sir Thomas Lewis, James Mackenzie, and Sir Clifford Albutt—did not make him a relative of mine by any stretching of those rules.

No, the connections between members of my family tree would have to be strong, the contact personal, the impact profound. John Caius (1510–1573), for example, roomed with Andreas Vesalius

(1514–1564) for a year at the University of Padua. Ample personal contact there, certainly. And Hippocrates's biologic daughter, whom only Islamic scholars have named, became so great a physician she was called "Aesculapius-like Doctor." Such pedagogical links would descend directly to me.

Soon, however, I found that history would force me to make exceptions and leaps through time, because no links of personal contact can be established for entire centuries, when nameless physicians simply cared for their patients while teaching their students the trade. And great translators who never met their mentors sustained medicine in the Middle Ages. Special cases exist, too, such as that of Giovanni Borelli (1608–1679), who never met William Harvey but was, through the writings of the latter, more profoundly influenced by him than by any of his personal instructors.

Before long, an odd thing happened to me: the library cubicle in which I sat surrounded by growing towers of dusty history books assumed the proportions of a monastery cell. I retreated in time, imagining myself at Jarrow and Monte-

cassino, listening to the Venerable Bede and Constantine the African anxious to tell me stories about the family.

Meet the Grandparents

I began the project by calling my mentor, William Morgan, Jr. '52, now a retired cardiologist, to ask who had influenced him as profoundly as he had helped mold me.

"Two people," he answered without hesitation. "Fuller Albright and Ed Bland."

Morgan had trained under both men at Massachusetts General Hospital. At that time, Albright '24 suffered from post-encephalitic Parkinson's disease. An avid flyfisherman, he contended that his tremor gave wet flies on his line just the right shimmy to dupe fish. Considered one of the founders of endocrinology, Albright taught one of the most coveted electives for Harvard medical students.

"It was a great honor for a senior student to take the month long elective with Fuller," Morgan told me one time. "The student would climb into Fuller's old car, drive him to the hospital, sit at his elbow, and then drive him home. Kurt Isselbacher ['50] was



FRIEZE FAME: This classical Greek stele depicts Aesculapius—the celebrated god of healing—treating a patient.

determined to take the elective but didn't know how to drive, so he hastily took lessons. One day I asked Fuller what it had been like with Kurt behind the wheel, and he replied, 'It was the only time I stopped shaking.'

Albright's two greatest influences were Jacob Erdheim in Vienna and Joseph Aub '16. Aub, who did cancer research at Massachusetts General Hospital, was a friend of Paul Dudley White '11 and George Minot '12 and studied under William Councilman; Richard Cabot, Class of 1892; Frederick Cheever Shattuck, Class of 1873; Henry

Christian; and Walter Cannon, Class of 1900. But had you asked Aub to phone his mentor, he'd have rung up David Edsall, who later became dean of Harvard Medical School. Edsall's mentor in turn was the legendary diagnostician William Pepper, Jr., at the University of Pennsylvania, who was most greatly influenced by Alfred Stille, professor of the theory and practice of medicine there.

In Stille's time, during the first half of the nineteenth century, U.S. medical schools had no microscopes, Massachusetts law forbade dissections, and anatomy could be taught only after graves had



Alice Hamilton, 1869–1970

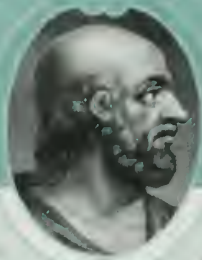
One collateral ancestor I am proud to claim is my "great-aunt" Alice Hamilton, considered the founder of occupational medicine. After graduating from medical school at the University of Michigan in 1893, she pursued further training in Germany. At the universities in Munich and Leipzig she was allowed to audit lectures provided that she sit in the back of the lecture hall to avoid distracting the male students and professors. During the typhoid fever epidemic in Chicago in

1902, Hamilton made the link between sewage, flies, and the transmission of the disease, leading to the reorganization of the Chicago health department, the establishment of the Occupational Disease Commission, and her appointment as its first director.

My "great-grandfather" David Edsall recognized Hamilton's excellence and recruited her to Harvard to teach industrial medicine in 1919. But the university fathers balked at her appointment. She would have been the first female professor at a medical school that wouldn't admit women as students until 1945. A compromise was struck. She could hold the rank of assistant professor, but she had to forgo the usual perks of a faculty appointment: use of the Faculty Club, a place in the commencement march, and tickets to Harvard football games.

Hamilton would go on to receive many honorary degrees. She was the first woman to win the Albert Lasker Public Service Award and, in 1944, to be listed in *Men of Science*. But she never received a promotion at Harvard, retiring in 1935 as assistant professor of industrial medicine emeritus. ■

I had completed ancestral generations before and five



been robbed. To further their education, a group of Boston and Philadelphia medical students traveled to Paris to study obstetrics under Mme. Marie-Louise Lachapelle, and anatomy and surgery with Baron Guillaume Dupuytren and Pierre Charles Alexander Louis. When several of these American students—Stille, William Pepper, Sr., and Oliver Wendell Holmes, Class of 1836, among them—celebrated Independence Day in 1833 with dinner at Frascati's in Paris, they had the panache to invite the Marquis de Lafayette to join them.

Morgan's second mentor, Edward Bland (my other "grandfather"), introduced cardiac catheterization at Massachusetts General Hospital. Morgan describes him as a modest, gifted bedside teacher, preeminent in auscultation and chiefly interested in acute rheumatic fever and rheumatic heart disease. Paul Dudley White, who had recruited Bland to the hospital, also greatly influenced him. At a time in my life when I held little respect for history, I had the good fortune to enjoy five minutes of bedside teaching from White, the father of American cardiology and one of my "great-grandfathers."

As a third-year medical student, I had been sent to the hospital's overnight ward to examine a patient. I was intent upon listening to the heart sounds—from the wrong side of the bed as I remember—when a diminutive white-haired man asked what I was doing. He looked frail, even ancient.

"Trying to figure out this murmur," I said.

"Listen over the acromion, on the left," he said. "Can you hear it there?"

I thought maybe I could. "Yes," I said.

"Then it's aortic stenosis," said the old man.

"Why?" I asked.

"Because I've never heard any other murmur radiate to the left acromion."

"Do you have a reference for that?" I asked.

"No. That's just been my experience."

"Still riding your bike, Doc?" asked the patient.

"You bet," said the old man, before turning and walking away.

"Do you know who that was?" the patient asked me.

"No," I said.

"That was Paul Dudley White, kid," said the patient. "Don't forget this."

Maternal Intuitions

After perhaps a year's research, I had completed ancestral links to Hippocrates for seventeen generations before and five generations after his time. I had also connected myself through Morgan, Albright, Aub, and Edsall back to the thirteenth century with only moderate difficulty.

But my most recent research has been consumed mostly with the Middle Ages and with connections between the Roman, Nestorian, Arabic, and Benedictine translators. I discovered three great-aunts, including Agnodice (fourth century B.C.), the gynecologist who lifted her tunic. Agnodice, who may have been a figure of legend, is held to have lived in Greece at a time when women were forbidden to study medicine. But she wanted to be a doctor and with the support of her father traveled to Egypt to train. The only account of her that has survived is given by Hyginus, a historian of the first century A.D.

Agnodice, the story goes, had disguised herself in men's clothing to learn medicine under Herophilus. One day, she heard a woman in the throes of labor and rushed to her side, only to have her help refused. Agnodice lifted her hem to reveal her gender, and the woman gratefully accepted her services. When local doctors learned of this new, popular

rival, they began to accuse Agnodice of seducing patients.

When Agnodice was brought to trial, she once again lifted her tunic to prove she was a woman. The local doctors became all the more enraged and charged her with breaking the law that forbade women to study medicine. "At this point," Hyginus wrote, "the wives of the leading men arrived saying, 'You men are not spouses but enemies since you are condemning her who discovered health for us.' Then the Athenians emended the law so that freeborn women could study medicine."

Another historian has suggested that these "wives of the leading men" were in fact wives of the court judges and had threatened suicide unless their husbands set Agnodice free. The judges did so and permitted her to practice medicine as long as she treated only women.

Another great-aunt I uncovered was Hypatia of Alexandria, the foremost mathematician of her time, and a legend in a school that had survived since Herophilus and Erasistratus had founded it 800 years earlier. As head of the Platonist school at Alexandria about 400 A.D., Hypatia lectured on philosophy as well as mathematics and grew famous for both her remarkable beauty and charismatic teaching. But Hypatia involved herself too deeply in politics—something academics should never do—siding with Orestes against Cyril, patriarch of Alexandria. For this she was reputedly murdered by a mob of Nitrian monks. Soon after her death, scholars began abandoning Alexandria, marking the beginning of its decline.

I traced a circuitous path to a third distant aunt as well. Mondino de' Luzzi (1275–1326) studied under the great Taddeo Alderotti, founder of the medical school at the University of Bologna. Mondino is said to have had a valuable laboratory assistant, a young woman named Alessandra Giliani, who had a gift for dissection and became the first

links to Hippocrates for seventeen generations after his time.

to inject blood vessels with colored liquids, the better to study their courses and relations. Mondino would be remembered for centuries as “the restorer of anatomy”; Giliani has been largely forgotten. In *The Evolution of Modern Medicine*, Osler wrote, “She died, consumed by her labors, at the early age of nineteen, and her monument is still to be seen.”

Avuncular Matters

While the histories of my female ancestors made up in color what they lacked in quantity, I unearthed no shortage of equally eccentric uncles from the family archives. Darius (ca. 558–486 B.C.), king of Persia, sustained a fracture dislocation of the ankle while horseback riding. None of his seven physicians could reduce it. It was rumored that among the Greek slaves was a certain Democedes, reputed to be a doctor. When the king ordered him brought forward, at first he denied his profession, reasoning that if his excellence became known, he might remain forever enslaved. Only when faced with torture did Democedes relent, treat the king, and reduce the fracture. In a few weeks the king was riding again. He summoned Democedes before him once more, and rewarded his doctor with chains and shackles of pure gold. (Democedes later gained his freedom when Queen Atossa secretly arranged his escape after he cured her of a breast abscess.)

Erasistratus (ca. 310–250 B.C.), called the founder of physiology and the father of experimental medicine, was a contemporary of Herophilus and a legend in the early days of the School of Alexandria. One

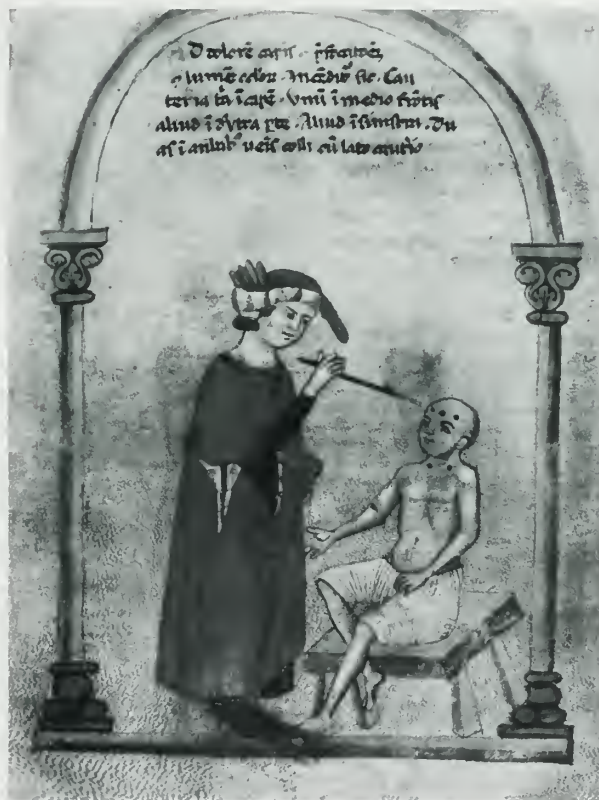
day, the story goes, Seleucus, the king of Syria, summoned Erasistratus to his son's bedside. Antiochus was dying, and none of the court doctors could diagnose his ailment. After a careful history and physical examination, Erasistratus reasoned that Antiochus was dying of unrequited love through, as Plutarch later recorded, “neglecting his person and refusing nourishment under the pretense of being ill.” The challenge for Erasistratus was to find the object of Antiochus's devotion. He therefore paraded the women of the court before

moment of diagnosis: Erasistratus, his hands on the pulse and precordium of his patient; the desperate father, Seleucus, holding his son; and the beautiful, unattainable Stratonice standing at the foot of the bed. Only at this moment did Erasistratus observe in his patient, “all Sappho's famous symptoms—his voice faltered, his face flushed up, his eyes glanced stealthily, a sudden sweat broke out on his skin, the beatings of his heart were irregular and violent, and, unable to support the excess of his passion, he would sink into a state of faintness, prostration, and pallor.”

The situation was more complicated than might seem at first blush; Stratonice was the young second wife of Seleucus and so stepmother to Antiochus. Therein lay the therapeutic dilemma. Erasistratus decided to employ reverse psychology. He told the king his beloved son's malady was an impossible love—because the object of his heart was Erasistratus's own wife, with whom he was not willing to part. When the king pleaded, the physician declared that Seleucus would surely not give up his own wife. His tactic worked.

“Ah, my friend,” answered Seleucus, “would to heaven any means, human or divine, could but convert his present passion to that; it would be well for me to part not only with Stratonice, but with my empire, to save Antiochus.” Seleucus then summoned a general assembly, declared that he had resolved to make Antiochus king and Stratonice queen of all the provinces of Upper Asia, uniting them in marriage. And everyone lived happily ever after.

Well, not everyone. Tiberius Claudius Nero Germanicus (10 B.C.–54 A.D.), of



MONKISH BUSINESS: During the Middle Ages, medical knowledge was translated and preserved in monasteries. In this medieval painting, a doctor cauterizes a patient.

his patient, all the while carefully observing Antiochus's vital signs.

The painter Jacques Louis David famously captured on canvas the

I, Claudius fame, was the third emperor of the Julio-Claudian dynasty of Rome, a dynasty that would end with his adopted son, Nero. Because Claudius limped, drooled, stuttered, and was constantly ill, he was never considered a threat to accession to the throne, and so when the poisons were passed around, Claudius escaped assassination. That is, until he became emperor. When his wife, Messalina—described by historians as a pouting adolescent nymphomaniac—was executed for infidelity, Claudius was persuaded to marry Agrippina the Younger, who had great ambitions for her son, Nero. The story of Claudius's assassination by Agrippina is confused, but one version has it that he did not die quickly from the poisoned mushrooms, and so had to be targeted again, this time

by the court physician Xenon, who dipped a feather in poison and applied it to the back of Claudius's throat under the pretense of inducing vomiting.

Another eccentric old uncle, Jibril ibn Bakhtishu (died ca. 828), the famous Nestorian physician and unparalleled diagnostician, was called to Baghdad to treat the caliph, Harun al Rashid. This was at a time in medical history when consideration of the pulse and urine was paramount in making a diagnosis. The caliph wanted to test Bakhtishu's ability before enlisting his services. Harun obtained the urine of a mule and presented it to Bakhtishu for analysis. Another physician, Abu Quraysh, swore it was the urine of a favorite slave girl. Bakhtishu carefully examined the specimen, and the caliph asked what treatment he would

advise. Bakhtishu replied that a good feed of hay and barley would be the best medicine. He got the job.

All in the Family

I finished my project in time for graduation and presented to each of my students an individualized medical genealogy—an illustrated chart complete with famous people, buildings, and quotations. The final family tree measured seven feet by two. One resident, in a wonderfully ingenuous display of reductionism, asked me to single out the greatest of her ancestors.

"Who's most important?" she asked. "I mean, whom do you think?"

I suddenly thought back to Muhammad ibn Zakariya al-Razi (865–925),

Branching Out



To chart a medical history of your own, start with a phone call to your mentor or to the person who most influenced your medical career. It should be a simple matter to establish links from that individual to his or her "parents" as well as to your "great-grandparents." But then, increasingly, you will have to make choices. You will need to be diligent about your research and honest in recording the results. Genealogical software, such as Reunion for the Macintosh or Family Tree Maker for the PC, helps immensely in tracking all the information you uncover.

You are "doing history" as historians would say, and you are about as qualified to do so as any historian is qualified to run a vent. Check your facts. Verify your dates. Get proof. Only when you are certain should you record a link. If ambiguity arises, document that ambiguity. Someone somewhere will examine your genealogy and take it as gospel, just as undoubtedly someone reading my article has jumped to the conclusion that I am a direct biologic descendent of Muhammad al-Razi.

COUNT HER IN: The author's "great-aunt" Hypatia was the leading mathematician of her time.

Books were my greatest resource. Arthur Selwyn-Brown's *The Physician Throughout the Ages* (two volumes, Capehart-Brown Co., Inc., New York, 1928) helped dispel my ignorance of medical history, although, as a compendium of essays and biographies mostly by physicians (rather than historians), it contains many inaccuracies. Though largely forgotten, Cecilia Mettler's *History of Medicine* (The Blakiston Company, Philadelphia, 1947) is better than Fielding Garrison's. At last count I had used 116 sources, but none can compare to George Sarton's histories of science.

Initially, my aim was to go as far back as Hippocrates—if not beyond—through personal links between teacher and student. How ignorant I was of history! In the Middle Ages medical knowledge was transmitted solely through literature, by the great translators of medical texts. In the late Greek and early Roman periods we know only of schools of medical pedagogy, the individual teachers having been forgotten for centuries. And in one case, although I found strange links of personal contact, I chose instead a connection involving contact only through medical literature: Giovanni Barelli (1608–1679) received personal instruction from René Descartes and Galileo, yet William Harvey's *De Motu Cordis* largely influenced his medical thought.

who had more than 200 outstanding scientific contributions to his credit, about half dealing with medicine. He established and was the first chief of a Baghdad hospital. He picked the site for the hospital by hanging pieces of meat in various quarters of the city and later examining them for putrefaction. He then chose the site where the meat had decayed the least. All this he did a thousand years before

Pasteur and Koch. But those accomplishments weren't why I chose him.

"Well," I told my student, "I'll never forget your great-grandfather, Muhammad al-Razi, and the words he lived by: 'No blame is there upon the blind nor any blame upon the lame nor any blame upon the sick and as for the insane: ...feed and clothe them...and speak kindly to them.'"

Somewhere in the process of my research, I realized, the names had turned into people, and then the links to me had become ancestral in the strongest sense of the word—and I had grown compelled to learn more about those physicians. The ego-driven exercise to connect myself to Osler-like icons no longer mattered. Whatever the era, I discovered doctors who had struggled in ways that I struggle; who had contended with adversity, politics, and hardship in ways that made my efforts pale in comparison; and who nevertheless produced, excelled, and mattered. ■

Michael LaCombe '68 is a cardiologist at Maine General Medical Center and associate editor of the *Annals of Internal Medicine*. "Relatives" may reach him at mlacombe@mainegeneral.org.



I recorded all the information in my genealogical software, printed out charts, and presented those charts to my students at graduation, along with a PowerPoint presentation illustrating the links. The effect was greater than I had anticipated. They were overcome. A few wept. I had to keep my head down to hold it together and completely missed the standing ovation my wife desperately wished I would see.

Others undoubtedly share my own connections through Massachusetts General Hospital, perhaps even as recent in the family tree as with Edward Bland or Fuller Albright.

Alumni should feel free to contact me for more suggestions about embarking on their medical genealogies, so they can begin to hear their own eccentric aunts and uncles spin the family tales. ■

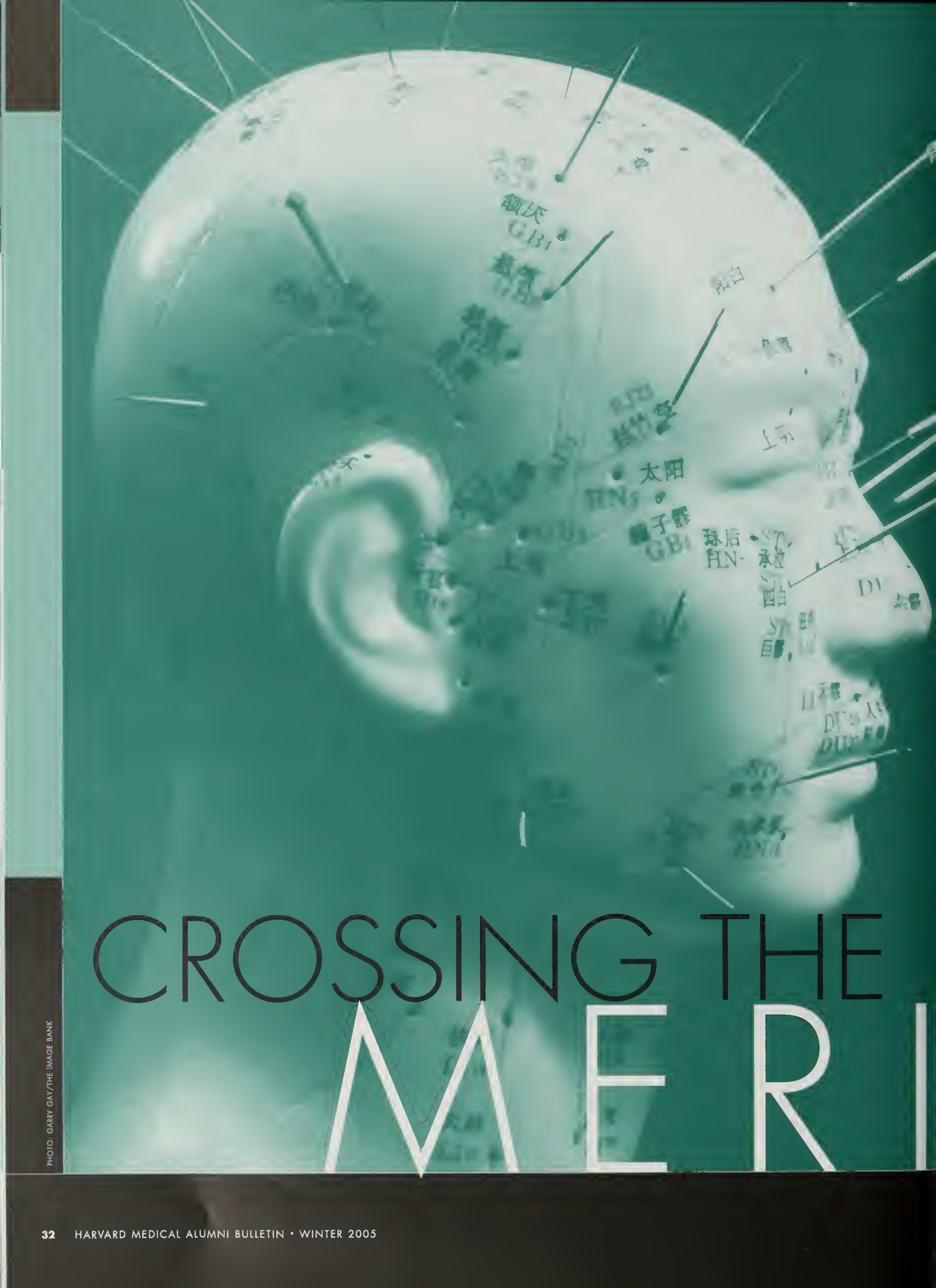



PHOTO: GARRY GAY/THE IMAGE BANK

CROSSING THE MERI




A pediatrician immerses himself in the study of acupuncture—and connects himself and some of his patients to an ancient legacy.

BY EARNEST WU

A FEW DAYS BEFORE THANKSGIVING, MORE THAN 15 YEARS AGO, my wife, Lee, sprained her ankle so badly it ballooned to twice its normal size. The maroon and violaceous swelling invited clucks of sympathy from my medical colleagues, who suggested icing, then heat, elevation, and an occasional anti-inflammatory. The prognosis for attending a formal Thanksgiving dinner, they all concluded, was grim, adding that Lee should expect a lengthy rehabilitation. But an acupuncturist had recently opened an office nearby, and I encouraged my wife to see her. ■ Barbara's office was austere. Nestled on rows of shelving were glass jugs containing dried herbs, twigs, branches, mushroom-like caps, and mysterious powders, all brown, white, or gray. On the opposite side of the room, standing pots of bamboo framed life-sized acupuncture charts

D I A N



The sphere contained a long list of ingredients, of which I recognized only one—bear gallbladder.

mapped on human silhouettes. The air held that distinctive smoky, herbal tang of incense I associated with the New York Chinatown apothecaries of my youth.

Barbara was in her early forties, with granny glasses and a sharp intellect. To take up acupuncture, she had abandoned a successful career as an aeronautical engineer. "I used to make weaponry for the U.S. military," she cheerfully explained, "but then I decided to become a healer."

After taking a history from Lee, Barbara examined her much like a Western-trained doctor might have, paying special attention to her pulse and laying her hands on Lee's belly. After pronouncing a Chinese diagnosis, Barbara inserted needles at various points on Lee's body. She connected the needles she had placed around the ankle to an electrical device that provided additional stimulation.

Before we left, Barbara gave Lee a golfball-sized, dark brown, gummy sphere with instructions to nibble it, a bit at a time, to help reduce inflammation. The mystery substance contained a long list of unpronounceable, cryptic ingredients, of which I recognized only one—bear gallbladder. Tangy, sweet, sour, salty, chewy, and slightly rancid-smelling, a chocolate truffle the remedy was not, despite its outward appearance. Lee dutifully choked it down and returned for two additional acupuncture treatments.

Within 24 hours, although Lee's ankle was still visibly bruised, the swelling began to recede dramatically; by day three, it looked virtually normal. We stepped out in fashion that Thanksgiving, Lee in a designer gown and heels. Doctors who had examined her traumatized ankle were amazed—and I was one of them.

Unclaimed Inheritance

For the nearly 20 years I have been practicing pediatrics, I have largely stayed within the parameters of a Western medical approach. Following my wife's experience, though, and my own subsequent efforts to educate myself about acupuncture, I have not hesitated to recommend it whenever I thought it appropriate. I am always willing to discuss complementary approaches to such problems as chronic pain, stress, musculoskeletal wear and tear, fibromyalgia, chronic fatigue, high blood pressure, and the side effects of chemotherapy. In recent years, patient interest in such remedies has increased sharply and I now typically have such discussions several times a week in my practice.

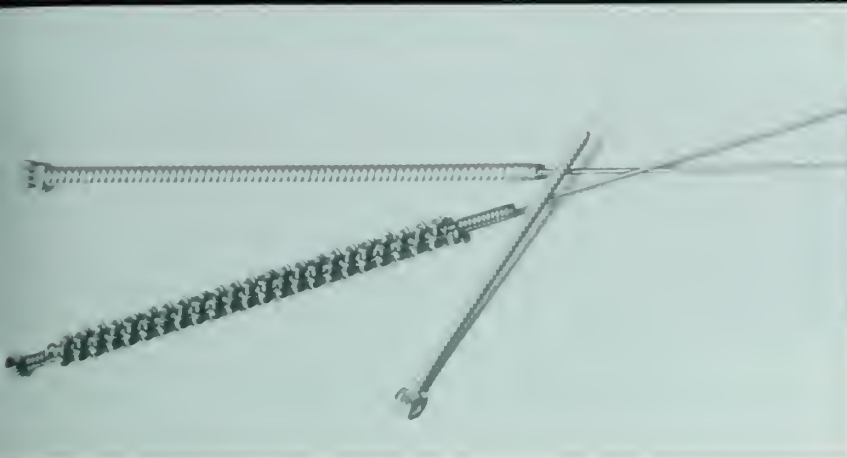
But if anyone had predicted to me when I entered medical school in 1972 that I would, mid-career, find myself regularly encouraging patients to explore complementary medical approaches, I would have scoffed. My Mandarin family had eagerly embraced Western science and medicine—two



uncles and their wives became doctors and my mother a nurse. They seemed to disdain traditional Chinese medicine as backward, even slightly embarrassing.

But mixed in with the Western medical texts in the library of my childhood home was the odd scholarly tome or two about acupuncture and Chinese medicine—relics, I suspect, from the medical training days of some of my relatives who would likely have been exposed to acupuncture as part of a Chinese medical curriculum. I occasionally thumbed through those books, wanting to touch something that resonated with my cultural heritage. But each time I found my initial excitement turning to bewilderment and ridicule: "Liver on Fire? Damp Heat in the Spleen? What is this? It makes no sense!"

Ironically, it wasn't until I was in the thick of my training at HMS that I made my first tentative rediscovery of this legacy. One day, during my cardiovascular training, I heard Herbert Benson '61 describe what he called the relaxation response. Now *this* is interesting, I thought. Here was the documented fall of blood pressure induced, without medica-



tion, merely by regulating the breath—the first acknowledgement of the mind-body connection I had heard during my entire HMS education.

On Pins and Needles

As fascinating as I found Benson's research, I didn't pursue any efforts to educate myself in the growing field of complementary and alternative medicine until much later. A few years ago, I was about to toss an advertisement for a medical conference in the trash when my eye caught the picture of an internationally known practitioner of Japanese acupuncture, who also happened to be my acupuncturist.

When seeking relief for a nasty bout of tendonitis that cramped my right thumb so badly I couldn't even grasp a pen, I had turned to acupuncture rather than orthopedics. Barbara had moved out of town by then but I tracked down one of her teachers, about whom she had always spoken highly. In one treatment, Kiiko Matsumoto had been able to relieve nearly all my pain. At her recommendation, I returned for a couple of touchups. And now, the advertisement proclaimed, she would soon be co-directing and teaching a course entitled "Medical Acupuncture for Physicians"—at Harvard Medical School.

Acupuncture at HMS? The possibility struck me, as someone who had graduated from the School in the mid-seventies, as unlikely. But the course delivered what it had promised. Over nine months, an impressive faculty of physicians and acupuncturists covered the neuroanatomy and neurophysiology related to a scientific understanding of acupuncture, including functional MRI studies of its effects.

A great deal of acupuncture theory—the equivalent, I was told, of the three year curriculum at the New England School of Acupuncture—was disseminated in a way that demonstrated how much Eastern and Western medicine overlap conceptually. After a while, I was no longer surprised about how much these two traditions had in common. Although their vocabularies differ radically, they both observe and respond to the same realities of the human condition.

In unchanged fashion, alcoholism, cancer, hepatitis, and other afflictions have ravaged the royal courtier in old Beijing, the English settler at Jamestown, and the Prague resident of today. The ancient Chinese healers were, in their own ways and words, extraordinarily astute observers of such phenomena. They had a keen awareness, for example, of Down syndrome and understood that it came from a baby's parents, even though they wouldn't have explained

it in terms of faulty gene replication. Instead, they spoke about "ancestral *chi*"—a different take on genetic

inheritance but conceptually similar.

Our first Saturday clinic engendered all the excitement and anxiety that a medical student might feel during a first class in physical diagnosis. Textbooks in hand, we took turns painstakingly tracking all the major acupuncture points on each other. Later we practiced needling and burning "moxa"—an acronym derived from moxibustion, or the burning of the dried fungus *Artemisia vulgaris*. Nearly painless when administered correctly, moxibustion stimulates acupuncture points through the application of tiny, yet intense flares of heat.

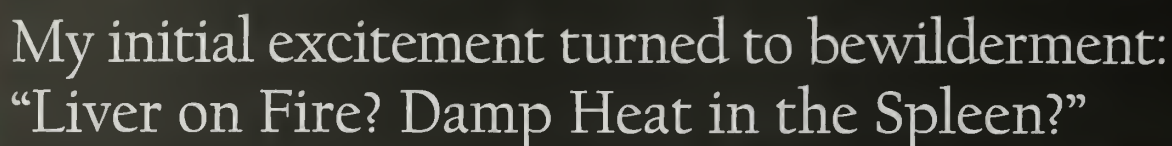
Just as I had struggled to learn "medicalese" in my first year of medical school, I stumbled over the vocabulary and concepts of Chinese medicine. I still have trouble comprehending a "damp spleen," for example, but I have begun to understand "empty heat in the lower burner." It is, if you think about it, a wonderfully poetic yet logical way to conceptualize subtle biological processes. The ancient Chinese intuited somehow that they had to lower the fire if it burned too intensely, or they had to provide fuel in cases where the supply ran low. In either case, the idea was to remediate a level of disharmony in the *chi*, or life energy, that flows through each of us.

As part of the natural aging process, someone entering menopause or andropause would present with "empty heat in the lower burner." But a prematurely menopausal patient—say a 29 year-old woman whose ovaries had been removed or whose chemotherapy had induced symptoms of end-stage menopause—would also lead a Chinese physician to declare the patient as suffering from the same phenomenon.

Schooled in the analytic, reductionist paradigm of the Western scientific method, I found it difficult to think in the inductive, intuitive paradigm of Eastern medicine, in which patterns of symptoms and observed disharmonies form the bases for diagnosis and treatment. The reasoning is often circular; the diagnosis may also be the template for treatment. At every lecture, I would have to leave my Western mentality outside the door and try to free up my imagination.

Of Longitudes and Latitude

Acupuncture follows the belief that the energies that circulate within our bodies should be in harmony with the energies of nature. According to Chinese medicine, twelve meridians and two major channels serve as superhighways for energy flow in specific directions. Kidney, liver, heart, pericardium, spleen, and lung compose the six Yin meridians; bladder, gallbladder, small intestine, triple warmer,



My acupuncture classmates and I sometimes found this logic unnervingly elusive, but when we fully embraced the Eastern paradigm of thought, the logic unfolded beautifully. The notion that tiny needle stimulations of a point on, say, the inside edge of the great toenail can relieve a painful

One current theory of chronic pain, for example, is that highly sensitized afferent nerve receptors are primed by chronic inflammation due to organ, joint, or musculoskeletal pathology, as well as alterations in levels of stress and mood. It may well be that, through the interconnection of nerve pathways, a palpated area of pain can be released by a distal point because minimal acupuncture needle stimulation produces, as perceived by the nervous system, a barrage of afferent signals that essentially counter the pain signals.



West Meets East

Although I have continued my acupuncture studies as an apprentice and have practiced on friends and family members, I have not incorporated acupuncture into my clinical practice because of hesitations on the part of my senior colleagues. Yet at the same time I continue to evaluate clinical problems in a Western manner, I often rely on the diagnostic aspects of my acupuncture training to complement my practice. As data accumulate, I formulate my clinical management plans and refer patients to acupuncturists when it seems most appropriate.

Witnessing the positive, practical effects of complementary approaches in patients has been deeply affirming. I recently saw, for example, a 12-year-old girl suffering from idiopathic thrombocytopenic purpura, or ITP, a blood disorder of unknown cause in which antibodies attack platelets. When the platelets are too few, a patient is vulnerable to extensive bleeding, particularly in vital organs. To offset the autoimmune destruction of her own platelets, this girl had been receiving regular intravenous gamma globulin for more than a year. Although some of the finest specialists in Boston had treated her, they couldn't end the predictable pattern of her platelet count plummeting as the infusion effects wore off. Furthermore, the child was suffering from severe headaches, chills, and abdominal pains.

When the girl's mother asked whether there might be another way of breaking the cycle, I urged her to consider acupuncture. After several treatments, the girl's platelet count, which the doctors had expected to register, as usual, around 170,000—and which had never broken 200,000—came in at 208,000. We couldn't understand how it had worked but had quantifiable evidence that it *had* worked.

The young girl continues to receive regular acupuncture treatments and her hematologist has switched to a different type of gamma globulin preparation. She now enjoys longer intervals of higher platelet counts and fewer adverse effects.

Closing the Gap

Today at least one in three Americans has sought complementary medical treatment. Although the quality and efficacy of complementary health care varies greatly, as does the purity and efficacy of unregulated herbal medicines

(which sometimes create noxious side effects when taken with prescribed medications), people are nonetheless increasingly driven to seek care that they perceive conventional Western medicine as failing to deliver.

By the end of the twentieth century, the accumulated evidence supporting the efficacy of acupuncture led a National Institutes of Health conference to issue a statement that acupuncture is a legitimate therapy, particularly for pain management, and that other areas of medical treatment bear continued research. Yet many in the medical establishment insist that unless a complementary therapy passes the acid test of a double-blind, randomized controlled study, it does not merit attention. Many of the Harvard teaching hospitals have ongoing research projects that compare Western treatment modalities with acupuncture using blinded, randomized controlled methods. My class benefited from some of these researchers, who were eager to share the latest results.

There is little question that, when it comes to acute and catastrophic illness, Western medicine, with all its advanced technologies and powerful medications, is unsurpassed. With chronic illness, however, where the options for relief are few and limited in scope, Western medicine pales.

Fortunately, further investigation of complementary treatments seems to be moving in a positive direction. Many prestigious medical institutions have established acupuncture clinics and provided elective opportunities to medical students and residents. HMS is playing a key role; its Division for Research and Education in Complementary and Integrative Medical Therapies and its Osher Institute, under the direction of David Eisenberg '80, conduct research and educational programs relating to complementary medicine safety, efficacy, cost-effectiveness, and policy.

In this era of growing acceptance of health care approaches that lie outside the purview of Western medicine, every doctor should learn about the capabilities and limitations of complementary medicine. It is sound practice, for example, for all physicians to ask their patients not only which over-the-counter preparations but also which alternative medications or therapies they might be using, as ignorance could be deadly. Such education can be fruitful; including skilled complementary providers in the referral circle has certainly enhanced my medical practice and the lives of my patients. With open minds, we can become healers in the most comprehensive sense. ■

Earnest Wu '76 is a pediatrician at Chelmsford Pediatrics in Massachusetts. He continues to apprentice with Kiiko Matsumoto at the Newton Acupuncture Clinic and is a teaching assistant for a new class of physicians in this year's acupuncture course.

DRIFTING WITH THE TIDES:
Years after the Khmer
Rouge regime fell, the
waves of refugees it pro-
duced continue to suffer.



What Lies BENEATH

by JASON H. WASFY

In working with refugees traumatized by mass violence, a medical student glimpses the power of the psyche to ravage the body.

THE PATIENT, AN ELDERLY WOMAN, OFFERED ONLY MUMBLES AS SHE FIDGETED with the handle of a shiny, metallic cane. Her head lay limp to the right, tucked away from the people clustered in front of her: the psychiatrist; her son-in-law; the Cambodian health worker who served as her translator; and me—a petrified first-year medical student. But the psychiatrist, Richard Mollica, remained cool and determined to help. An expert on the medical and psychiatric problems of people who have experienced extreme violence, he began gently probing into the woman's background by asking the son-in-law how the problem would be defined in the Khmer language.



BRUTAL LEGACY: The Khmer Rouge's landmines continue to claim victims (left); Cambodians have preserved ghastly evidence of Pol Pot's genocide (above); these 1974 refugees (right) escaped the fate of the two million people who were murdered.

The son-in-law described the patient as *prout chit*, which translates to "having a deep sadness that is visible on her face." He went on to explain that she didn't respond to hunger, eating only when prompted. Night terrors kept her awake. She was frequently incontinent. Her depression often left her unable to communicate with her family; she seemed to stew in memories of the past.

Before the Khmer Rouge seized control of Cambodia in 1975, the son-in-law told us, the woman had been mother to eight children; only one emerged alive from the ensuing genocidal madness. The woman had stayed in Cambodia with her surviving daughter, wandering from place to place, until immigrating to the United States a decade ago. The full details of her nightmare in Cambodia did not emerge in our interview; I sensed that not even the son-in-law could bear to recount them.

The story of mass violence in a patient's past often emerges gradually, as the patient-doctor relationship strengthens over a number of visits, Mollica told me later. But even in this initial interview, enough of the woman's trauma had surfaced for us to glimpse the depth of her pain.

"It isn't normal for someone to be wetting her pants and ignoring hunger pangs," Mollica said, while ladling Cambodian soup into my bowl during lunch later that day. "Chronic depression waxes and wanes, but this patient hasn't improved in ten years." He suspected that she suffered from a mixed disorder, with

neurological problems compounding a psychiatric reaction to the violence she had endured. How Mollica knew what clues to look for I couldn't imagine.

Caught in the Undertow

A week earlier, when I'd first met Mollica, I hadn't known what to expect; in fact, I thought I had the wrong address. Medical students tend to question themselves, and I was certain that this unimposing house nestled in leafy, residential Cambridge couldn't be the headquarters of the Harvard Program in Refugee Trauma.

But the address was indeed correct. The receptionist ushered me into a conference room, where I found Mollica, the program's director, in the midst of telling a story. I knew he had gained international renown for his work with refugees—from Cambodia, Bosnia, and other conflict zones—who have experienced the trauma of mass torture, ethnic cleansing, and genocide.

After bounding up and introducing me to the staff, Mollica said, "I'm glad to have Jason with us; so few medical students ever visit our program." He explained that the center's scientific approach stems from the knowledge that trauma is heavily influenced by a person's cultural context and experiences.

When Mollica founded the refugee program in 1981, the concept of refugee mental health didn't even exist in U.S. medicine; it was generally believed that little could be done to help torture sur-

vivors regain normal lives. Yet the work of Mollica and his colleagues has not only demonstrated the enormous psychiatric distress and disability associated with mass violence and war, but has also produced a model of treatment, one that has been replicated throughout the world.

I was struck that day by Mollica's passion as he recounted patient stories that have informed his trauma work. In one, a primary care physician had been treating a patient with diabetes for seven years, with little success. The woman was a Cambodian refugee, and her failure to comply with the diabetes regimen was tied to a complicated—and undiagnosed—history of trauma.

"Her husband had been killed," Mollica said. "She'd been raped and had endured multiple episodes of violence—but her doctor didn't know any of this. He had never asked—not because he was uncaring or ignorant, but because, like most physicians, he wouldn't know how to cope. He was reluctant to open Pandora's box, because he had no treatment plan to offer."

During the Khmer Rouge regime, the Cambodian government murdered two million of the country's inhabitants. The violence was so widespread that, in his clinical practice, Mollica simply assumes that any Cambodian patient older than 25 has endured conflict-related trauma.

Mollica's fusing of ethical and political questions with clinical diagnoses was what drew me to his program in the first



The notion that vivid and terrible memories lay beneath trauma intimidated me. What if I inadvertently conjured up a patient's torment?

place. I had deferred admission to medical school to do graduate work in political science, and I was eager to understand better how medicine—when it focuses on the health impact of mass violence—could inform policy on subjects like human rights and foreign affairs.

At the end of my visit to the program's main office, Mollica offered to introduce me to some of his patients so I could better understand the effects of trauma. He directed me to the Market Square Family Health Services in Lynn, a city ten miles northeast of Boston that is home to a large Cambodian population.

The Lynn Community Health Center, in collaboration with the Harvard-affiliated Partners HealthCare, established the health services in 2004. The clinic grew out Mollica's work with the now-closed Indochinese Psychiatry Clinic, which Mollica founded in 1981 as one of the first in the United States to care for the mental health needs of refugees.

The first patient care course in the HMS curriculum, Patient-Doctor I, requires each student to undertake an independent project on any topic relating to patient care. My interest was in caring for survivors of mass violence, so I was shadowing Mollica to learn more about his refugee work.

Of Unsound Mind and Body

The Market Square clinic primarily serves Lynn's Southeast Asian and Latino communities. When I arrived, I found its walls adorned with stunning artwork—Burmese tapestries, Cambodian stone rubbings from Angkor Wat, Guatemalan weavings. I learned later that the clinic's patients had contributed all those pieces.



The artwork wasn't the only eye-opening element for me. Although I had been learning how to conduct patient interviews in medical school, I walked into the clinic knowing this experience would be a challenge. Psychiatry was an unknown world to me. With congenital deformities, I could spot what was wrong with a patient, and I could verify many infections by peering into a microscope. But in the face of psychiatric illness, I felt blind. The notion that vivid and terrible memories lay beneath trauma intimidated me. What if I inadvertently conjured up a patient's torment?

The next patient I observed at the clinic, though, presented quite differently from the stricken elderly woman who had been accompanied by her son-in-law. This patient was younger and more able to communicate, at least with the Cambodian health worker. She had come to

the clinic for a refill of clonazepam, a drug that reduces anxiety and helps people sleep through the night.

The problem with clonazepam is that patients who take it over long periods develop a tolerance to it. The patient's medical history revealed that she had also tried two selective serotonin reuptake inhibitors, setraline and paroxetine. But she refused to continue those drugs; to her, she told the translator, the drugs "felt like poison."

As he talked with the patient, Mollica drew out some details of the woman's harrowing experiences. "Doctors must engage the trauma story cautiously and empathetically because discussing it can distress the patient further, making them more symptomatic," Mollica later explained. "This may mean bringing up their traumatic life experience for just five minutes during each medical visit.



The last patient that day walked into the clinic smiling. But I soon learned her demeanor masked a history of depression and anxiety.

Waves of Despair

As countries struggle to cope with the devastating aftermath of the recent tsunami, the Harvard Program in Refugee Trauma (HPRT) at Massachusetts General Hospital has offered its resources and expertise to help the untold number of traumatized survivors bolster lives and spirits flattened by the deadly waves. A team from the HPRT, including Richard Mollica, the program's director and an HMS professor of psychiatry, was invited to Indonesia to help develop a plan for administering what Mollica calls "a mental health action plan for disaster recovery."

Few organizations have had more experience in devising such plans. HPRT experts have worked with Cambodian refugees in Thai camps, civilians caught in the crossfire of conflict in East Timor, people living in postwar Bosnia-Herzegovina, and survivors of the catastrophic 1995 earthquake in Kobe, Japan. These experts have also trained and assisted health and mental health providers caring for the survivors and the families of victims of the September 11 attacks in New York City, and they offer community-based clinical care to torture survivors living in Massachusetts. The program's multidisciplinary approach has pioneered in the health and mental health care of traumatized refugees and civilians for more than two decades.

Despite those long years of work, the idea of treating the psychological effects of trauma—such as depression—on a large scale has been slow to develop traction. Mollica recognizes that individual counseling and antidepressants aren't feasible methods for treating suffering as widespread as that after a tsunami. The emphasis, he says, should be on fostering resiliency and tapping into individuals' altruistic instincts and spiritual strength. He recommends putting survivors to work

rebuilding their communities, getting children back in school as early as possible, engaging adolescents in community service, and rebuilding houses of worship. "The worst thing you can do for trauma survivors is to foster long-term dependency by forcing them into camps or orphanages where they can't take action to help themselves," Mollica says. "The busier they are rebuilding their lives, the less likely they are to sink into despondency."

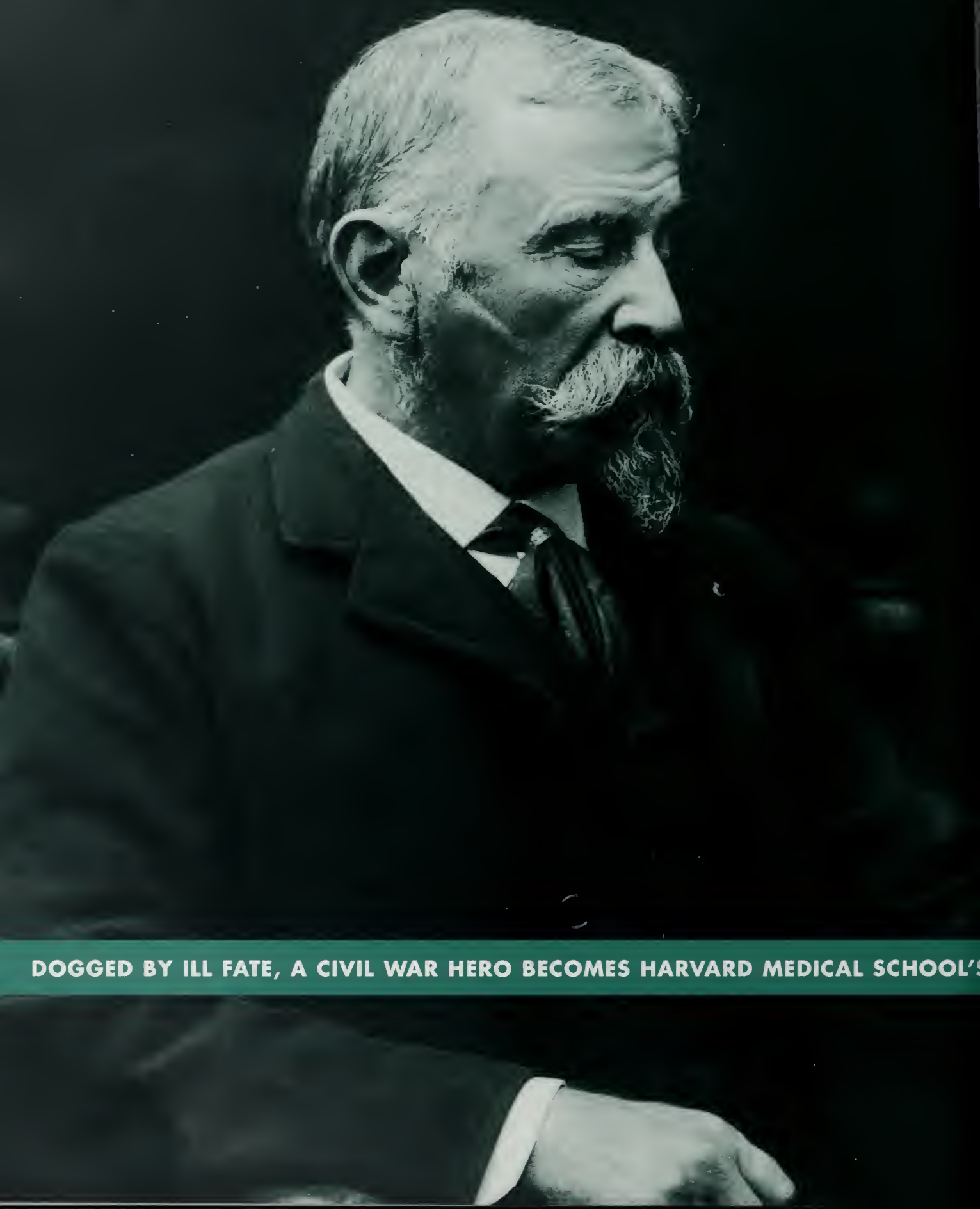
Mollica also advocates involving local health practitioners, healers, and community organizers in the psychological recovery process because they are the ones who will be dealing with the lingering effects of trauma. ■



SPIRIT HEALER: Richard Mollica has been delivering psychological first aid to trauma survivors for more than two decades.

PHOTOS: | HOLMES EXHIB IMAGES (ABOVE) | STEPHANIE MITCHELL | HARVARD NEWS OFFICE (RIGHT)

REGARDING



DOGGED BY ILL FATE, A CIVIL WAR HERO BECOMES HARVARD MEDICAL SCHOOL'S

HENRY



ENERGIOUS, UNLIKELY BENEFACTOR.

by JOSEPH B. MARTIN

HE TURNED TO A “BLEEDER,” WHO EXTRACTED



FOR THREE DAYS HENRY LEE

Higginson's head pounded.

He had been studying piano

in Vienna, and the renowned

physician recommended to

him was out of town. In des-

peration, Higginson turned to

a “bleeder,” who extracted a “tum-

blerful” from a vein in the musician's left arm. Relief came

instantly, but heartbreak soon followed; impatient to

resume playing almost immediately, Higginson inflicted

permanent injury to his arm, cutting short his dreams

of pursuing a career as a pianist. For Higginson, the

blow must have been crushing; he had written to his father that nothing was more refining than music, no antidote against evil greater. But his personal disappointment would become the medical world's gain; ironically, the injury Higginson sustained in resorting to the bloodletter's shady practice would steer him on a philanthropic path that made possible the purchase of the land on which Harvard Medical School now sits.

Throughout his life, Higginson, who was born in 1834 in New York but spent nearly all his life in Boston, deftly transformed unexpected adversity into opportunity. Poor eyesight compelled him to suspend his education only six months into his studies as a member of Harvard College's Class of 1855. Although he never completed his degree, Higginson forged strong ties with several of his classmates, including James Jackson Lowell, James Savage, Jr., Stephen Perkins, Robert Gould Shaw, and Charles Russell Lowell, Jr. All these friends died on Civil War battlefields, but Higginson would honor their memory—and the legacy of their friendship—until his own death.

Not long after injury had dashed his musical aspirations, Higginson considered a career as a wine mer-

chant. But the outbreak of the Civil War scuttled that ill-fated endeavor. Long a committed abolitionist, Higginson was among the first to enlist in the Union Army. Once again, bad fortune followed him; in 1863, he was severely wounded in the Battle of Aldie, in Virginia. Knocked to the ground and struck in the head by a man he had unhorsed, Higginson later described the ordeal in his diary: “He then proposed to take me prisoner, but I told him I should die in a few minutes, for I put my hand and found a hole in my backbone. He took what he could get of my goods, and rode off.” Yet Higginson survived, to display proudly on his right cheek a scar from a saber wound. During his convalescence, he married Ida Agassiz, the daughter of Harvard zoology and geology professor Louis Agassiz.

The return to civilian life after the war saw Higginson enter into new business ventures—and meet with fresh disappointments. His first major undertaking was a scheme to raise cotton on a Georgia plantation, but that fell into bankruptcy within two years. The experiment's failure also ended his utopian dream of establishing a school for the children of the former slaves on the plantation. Higginson returned to Boston, at the age of 33, more than \$10,000 in

debt, to live in a small apartment with his wife.

The idealistic Higginson, strapped for a means of support, reluctantly entered his family's brokerage firm. But over time his diligent work ethic made him moderately wealthy. Once in a position to do so, he began investing his prosperity for the common good with an enthusiasm he never could manage to summon for business. By the end of his life, Higginson had created a legacy as one of the greatest philanthropists in Boston's history, if not the nation.

Higginson's vision of a world-class symphony orchestra for Boston arose out of his passion for music. In 1887 he discovered a plot of land on Huntington Avenue in a sparsely populated site of former tidelands and mudflats that had only recently been converted into solid ground as part of the Back Bay landfill. It seemed an unlikely place to build an orchestra house. But, together with wealthy patrons of Boston, Higginson encouraged investment in the project and succeeded in raising \$400,000 in just tens days' time in the midst of the financial panic that engulfed the nation in the summer of 1893. Symphony Hall opened seven years later with a gala celebration. Higginson remained the symphony's moral and financial mainstay for 38 years.

A "TUMBLERFUL" FROM A VEIN IN HIS ARM.

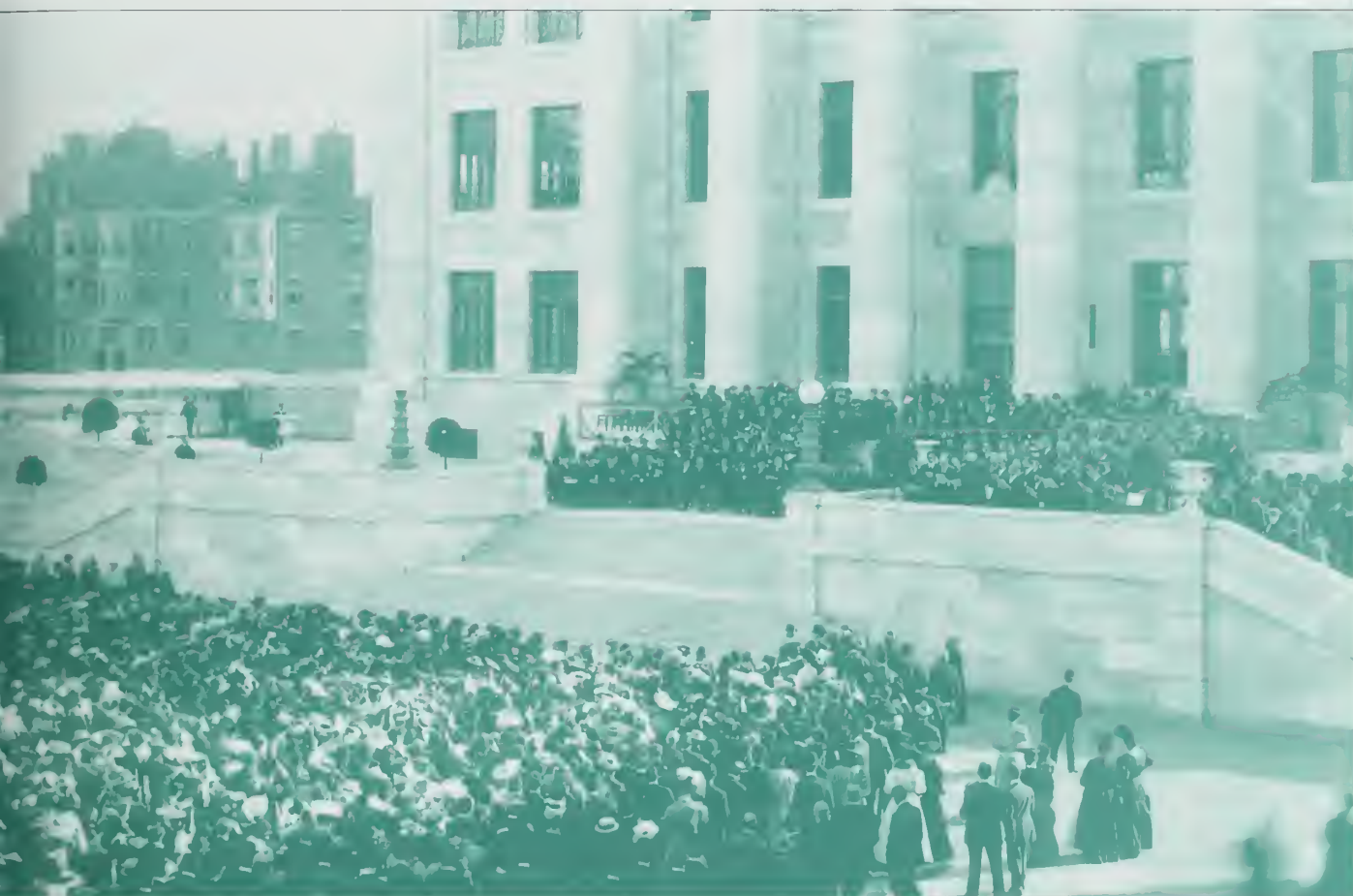


PHOTO: ALAN LEVINE. EST. AND. ON THE RIGHT. PHOTO: QUAD. ON THE HARVARD MEDICAL SCHOOL. IN THE FRONT. A. C. HUNTER. BARRY. J. W. HUNTER.

Higginson also gave generously to educational institutions, including a model college in Santiago, Cuba. But he contributed the most to the university that should have been his alma mater. Among his gifts was the Harvard Union for all students, where, he stated, "should centre all the college news, of work, athletics, sport...and there, we hope, may be found a corner and a chair and a bit of supper for the old and homeless alumni from other cities."

In 1882, Higginson signed the Articles of the Association that incorporated the "Harvard Annex," an offshoot of Harvard College that provided instruction exclusively to women, into "The Society for the Collegiate Instruction of Women." A dozen years later, this "society" was chartered as Radcliffe College, with Higginson serving as an associate of the governing board and as its first treasurer.

And in 1890, Higginson donated a 31-acre plot of land to Harvard College for the recreational needs of students. "My only hope," he said in his dedication speech, "is that the ground shall be called 'The Sol-

dier's Field' and marked with a stone bearing the names of some dear friends—alumni of the University, and noble gentlemen—who gave freely and eagerly all that they had or hoped for, to their country and to their fellow men in the hour of great need—the war of 1861 to 1865 in defense of the Republic."

Yet one of the lesser known of his efforts is the critical role Higginson played in determining the future of Harvard Medical School. As an influential fellow of the Harvard Corporation, he supported the vision of two HMS professors, Henry Pickering Bowditch and John Collins Warren, to purchase the Francis Estate, a 26-acre property bordering Longwood Avenue.

At the end of the nineteenth century the School was located on Boylston Street near Copley Square, adjacent to the Boston Public Library. Although the School was pressed for space, Harvard University President

MARBLE MARVEL: In 1906 an impressive gathering attended the dedication of Harvard Medical School's Quad, whose construction Higginson's financing plan had helped make possible.

“MAY YOU KEEP STEADILY BURNING THE FIRE OF HIGH IDEALS, ENTHUSIASM, AND HOPE.”



LOOMS WITH A VIEW: The Quad's five imposing marble buildings came to dominate the once open expanse of the Francis Estate. The plan required more exterior marble than had been used in Boston during the previous 20 years.

Charles Eliot had been unwilling to advance university funds to the project without a strong show of public support. From the time discussion to buy the Francis Estate began in 1899, Eliot insisted on a “university policy of taking no pecuniary risks in buying land for the future use of the school.” Partial success in the fundraising endeavor for HMS came from substantial financial commitments from New York's J. P. Morgan and John D. Rockefeller, but the effort fell short of the required investment of four million dollars.

Despite university policy, on May 5, 1900, even as construction was rushing forward to completion of Symphony Hall, the Medical School faculty—led by Bowditch, Warren, and Theobald Smith—unanimously voted to purchase the estate, only to grow nervous, soon after, about the possible purchase of the land by another buyer before the School could raise the necessary funds.

So Bowditch and Warren sought other means of reserving the Francis Estate. They approached Higginson, who suggested that the Medical School use the same method he had employed in reserving the Symphony Hall site prior to construction. He suggested that 15 to 20 prominent businessmen invest

between \$10,000 and \$50,000 in the land purchase for the Medical School.

A memorandum of agreement was drawn on August 6, 1900, which stated, in brief, that the investors would hold the land for Harvard for up to 57 months. If the Medical School decided to relocate to the Francis Estate, the investors would sell the land to the School at cost. But if the School chose another location, the landowners could dispose of the land as they wished and keep any profit from the sale. Within a few months, \$565,000 had been raised from 20 investors; Higginson himself invested \$50,000.

In a letter to Bowditch outlining the syndicate purchase of the land, Higginson wrote that he was impressed with the professors' financial acumen and explained why he had organized the effort: “You and Collins Warren are very clever and can induce men to take this risk. It is very small and there is the chance of profit....I am willing to stand my chance of the loss on this land when I consider how much good may accrue to the Medical School by its purchase now.”

Architects were selected and ground was broken in September 1903 for the five massive marble buildings that would form the original Quad. One hundred years later, on September 24, 2003, the School commemorated the opening of the New Research Building on the site, the largest construction of a single building that Harvard University has ever undertaken.



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Higginson was a seminal figure at the turn of the twentieth century, whose generosity and high ideals inspired others of his generation. At the formal dedication of the Harvard Union on October 15, 1901, as on other occasions, he called on the students to uphold the fundamental values and ideals that had guided him throughout his life. He was the last speaker that day.

"In these halls may you, young men, see visions and dream dreams," he told the students, "and may you keep steadily burning the fire of high ideals, enthusiasm, and hope, otherwise you cannot share in the great work and

glory of our new century....Every honor is open to you, and every victory, if only you will dare, will strive strongly, and will persist..."

Historical events and individual circumstances frequently form a constellation that shapes the future, as well as the cultural and social environment of that future. It is often the vision of a single individual that kindles that constellation and thus defines critical moments that become the substance of history. It is worth recalling Higginson, his deeds, and the way he helped build the future for Harvard, for Boston, for the nation, and for the world. If not remembered from time to time, that history inevitably dims, and the present—that which began as a vision for Higginson—is poorer for it. Our lives would be fuller and more inspired if, when looking at these buildings and walking through these halls, we would occasionally remind ourselves of the spirit of a man who captured every opportunity to transform the present into a better future. ■

ESTATE OF THE ART: A genteel crowd turned out to celebrate the formal transformation of the Francis Estate into the site where HMS students and faculty would practice the art and science of healing.



QUAD SQUAD: It was Higginson's financial acumen that turned Henry Pickering Bowditch's and John Collins Warren's vision for HMS into reality.

Joseph B. Martin, MD, PhD, is the dean of Harvard Medical School. The author wishes to thank Nora Nercessian, PhD, the former associate dean for alumni programs and special projects at HMS, for her kind assistance in reviewing this article.

BROADCAST CLUES:
Anh Bui '05 turned to
television to promote
health literacy in
Boston's Vietnamese
immigrant community.



"It's common for people in the community to stop taking a course of

by BEVERLY BALLARO

PRACTICAL MAGIC

THESE DAYS, MORE AND MORE HMS STUDENTS ARE TAKING THEIR medical education to the streets—and to mountain hamlets, desert encampments, and coastal villages all over the globe. Since the Division of Service Learning—now under the direction of David Urion—began to take shape in 1998, HMS students have enthusiastically embraced the educational opportunities it offers. Nearly two-thirds of today's students engage in community service during their first year and, in 2004, some 50 students traveled abroad to do so. ■ "It's a win-win program, uniting rigorous academic study with volunteer community service," says Jean Hess, who serves as an associate director, along with Elizabeth Miller '92. "We measure its success not only by what our students learn, but also by the usefulness of their work to those they serve." ■

From refugee camps to inner cities, service learning students are stretching the bounds of an HMS education.

~ANH BUI~

MANGO AND MUNG BEANS ARE COLD FOODS," EXPLAINS ANH BUI '05. "Cherries and chives are warm—but then again, so is ice cream." Bui's knowledge of what may seem counterintuitive to people not steeped in Asian cultures played a key role in the success of her service learning project with Boston's Vietnamese immigrant community. For local broadcast, Bui worked with the Vietnamese-American Civic Association to prepare Vietnamese-language television segments on such topics as hypertension, diabetes, and hepatitis.

In addition to explaining the causes, symptoms, transmission modes, and treatments of common diseases, Bui encouraged her audience to learn new ways of navigating their health care needs. "It can be tough," Bui says, "for many immigrants, particularly older ones, to make the cultural leap to the American health care system."

Bui helped patients understand what to expect from a typical clinical encounter and how to weigh medical decisions. She also tackled one of the most

antibiotics as soon as they start feeling better." —ANH BUI

pressing medical issues facing the Vietnamese community: drug compliance. "It's common," says Bui, "for people to stop taking a course of antibiotics as soon as they start feeling better. They often hoard the remaining medication to take for future ailments or to dispense to family members."

Bui tried to frame her advice in terms that would be culturally accessible to a population more accustomed to seeking relief from herbal remedies than from prescription drugs. "You believe that your health depends on maintaining a balance," she would point out. "Your herbalist always evaluates your condition before putting together a mixture that is just right for you, and you always finish the whole teabag, don't you? And so it is with antibiotics, which must be finished to yield their full benefit."

Bui's understanding of traditional Vietnamese thinking helped her to tailor other health promotion efforts in culturally specific ways. In the television segment on hepatitis, for example, she emphasized the risk factor in food sharing, knowing that most Vietnamese eat their meals family-style. "It was eye-opening for many people," she says, "that they could prevent serious illness by doing something as simple as using a spoon to serve individual portions instead of everyone using chopsticks to eat from communal bowls."

For Bui, the service learning experience has infused her medical education with a measure of irony. "When my father, an internist, came to this country, he had to translate his Vietnamese medical training, credentials, and vocabulary into American terms. The immigrants in Boston have taught me in the reverse direction; I've had to relearn my American medical vocabulary in Vietnamese." Bui hopes to bring the connection full circle by providing health care to the Vietnamese community when she finishes her medical training. ■



~KEDAR MATÉ~

ALTHOUGH MEDICINE PROVIDES A PATH TO COMMUNITY SERVICE FOR many, the reverse proved true for Kedar Maté '05. While researching his undergraduate thesis on HIV among Haitian immigrants, Maté encountered the writings of Paul Farmer '90, for whom he eventually found himself working at Partners in Health. "I was assisting people from different disciplines," says Maté, "but they were all committed to the same goal: providing poor patients with access to world-class treatment for tuberculosis and HIV. I started out not at all convinced that I wanted to go into medicine, but seeing the docs in action erased my doubts."

At HMS Maté began working with the Prevention and Access to Care and Treatment (PACT) Project. His role focused on motivating HIV-infected people to comply with highly complicated daily drug regimens. Maté helped adapt a strategy that had already proved successful in assisting tuberculosis patients. "Directly observed therapy, or DOT," explains Maté, "is essentially a buddy system. We trained caseworkers to visit patients' homes so they could witness the patients taking their meds."

For many people with HIV, Maté notes, the ravages of the virus itself make compliance difficult. One such person was a woman in her twenties, whom Maté got to know in the early phase of the program, when he was doing the casework himself. "When I first met 'Claudia' her CD4 count, which measures the immune system's strength after a diagnosis of HIV infection, was in the single digits—in contrast to a healthy adult's count,

THERE'S NO PLACE LIKE HOME: Kedar Maté has used caseworker home visits to promote better drug compliance among people living with HIV.

"I started out not at all convinced that I wanted to go into medicine, but seeing the docs in action erased my doubts." —KEDAR MATÉ

"The students gained firsthand knowledge of people with disabilities leading rich, meaningful lives." —BRIAN SKOTKO

which might be in triple or even quadruple digits," recalls Maté. "On top of battling HIV, she suffered from DiGeorge syndrome, a rare congenital disease whose symptoms can include cognitive and mental deficits. She was totally overwhelmed and unable to keep up with her meds."

When the Department of Social Services (DSS) suspected that Claudia's young daughter wasn't growing because of maternal neglect, they removed the child from her mother's custody. "Claudia was devastated," recalls Maté, "and adamant that she had been caring properly for her little girl." PACT helped to broker a deal with DSS, whereby it was agreed that Claudia would get her daughter back if she adhered, with PACT's supervision, to her medication regimen. Claudia quickly became a model of compliance.

"As it turns out," Maté says, "Claudia had been telling the truth; her daughter didn't grow in the foster placement either. The child had simply been slow to catch up with her peers in terms of physical development. And within weeks of returning to her mother's care, she attained a healthy weight. Claudia's health also improved; her CD4 count rose significantly and her viral load plummeted to undetectable levels."

Although success stories like Claudia's are convincing, Maté acknowledges a widespread reluctance or inability to invest in an approach as resource intensive as DOT. He is hopeful, though, that by carefully screening potential patients, DOT program administrators can judiciously limit its use to those who could benefit the most. And he finds encouraging the program's success in fulfilling its ultimate goal—teaching patients to take independent responsibility for their own treatment regimens. "Reducing the sheer number of pills people have to swallow each day," says Maté, "will certainly go a long way to ensuring better compliance." ■

~BRIAN SKOTKO~

VOLUNTEER AND ADVOCACY EFFORTS HAVE FORMED AN INTEGRAL PART of Brian Skotko's life for as long as he can remember. Growing up with a younger sister with Down syndrome inspired Skotko '06 to focus on developmental pediatrics and to dream of a future role as a disability-rights policymaker. To that end, he is simultaneously pursuing a master's degree in public policy from Harvard's Kennedy School of Government.

As his initial service learning project at HMS, Skotko helped revamp the curriculum in the genetics course that all first-year students take. "The course offered a tremendous amount of clinical information about people with cognitive or developmental disabilities but no opportunities to interact with people living with those disabilities," says Skotko. So he co-organized a series of lunchtime seminars—More to Life than Genes—that each week focused on a different theme, such as Down syndrome, Rett syndrome, or Tay-Sachs disease. For many students, the seminars offered an invaluable reality check. "They gained firsthand knowledge," Skotko says, "of people with disabilities leading rich, meaningful lives full of possibilities and expectations."

Skotko's ambitions soon extended beyond the classrooms of HMS. Again with the support of the Division of Service Learning, he traveled to Spain, where he mailed more than 6,000 surveys to mothers of children with Down syndrome. His research, to be published in the June 2005 issue of *Mental Retardation*, aimed "to capture the sentiment and ethos of what it was like to get a postnatal diagnosis." Skotko then conducted a similar survey of more than 3,000 mothers in the United States. The results of his American survey appear in the January 2005 issue of *Pediatrics*.

Skotko asked the mothers to evaluate how their physicians had communicated a postnatal diagnosis of Down syndrome. "Most mothers expressed intense frustration," he says. "In many instances, doctors did an



SEEING IS BELIEVING: Brian Skotko is trying to raise awareness of the dignity and potential of people living with disabilities.

excellent job of conveying the clinical aspects of Down syndrome, but they tended to fall far short in terms of compassion and understanding."

Based on the mothers' feedback, Skotko came up with a ten point prescription for physicians to consider when delivering a postnatal diagnosis of Down syndrome. The recommendations include the specific and commonsensical. The person communicating the diagnosis, for example, should be a physician (some mothers surveyed had received the news from nurses, lactation specialists, or even, in one case, a candy stripper). The doctor also should share suspicion of the diagnosis as soon as possible, but not until the mother is appropriately settled (some mothers received the news as their episiotomies were being stitched up).

Perhaps most important, Skotko says, is that doctors set an appropriate tone. "Many mothers reported feeling devastated," he says, "when their physicians began the conversation with phrases like, 'I'm sorry,' or 'I have some bad news,' or 'I don't know how to say this but...' Mothers with the best experiences, by contrast, praised physicians who offered congratulations before communicating their suspicions of a Down syndrome diagnosis, and who added positive comments such as, 'Your child is going to bring great richness and warmth to your family.'"

Skotko's companion paper, in the March 2005 issue of the *American Journal of Obstetrics and Gynecology*, summarizes the responses of women whose babies received a prenatal diagnosis of Down syndrome and offers a seven-point prescription for obstetricians, genetic counselors, and other clinicians involved in prenatal care. "They can expect to be challenged," says Skotko, "but, then again, we all can, in the campaign to create a better understanding and appreciation of people living with disabilities." ■



~SAMAR HASSOUNEH~

YOU'RE PALESTINIAN," THE PARENTS OF SAMAR HASSOUNEH '08 repeatedly reminded her, even though she spent most of her childhood in Jordan and has only twice set foot in the land her parents fled many years ago. Hassouneh's cultural identity and heritage have played defining roles in her commitment to service learning.

When she heard about a program called Bridging the Gap, which matches medical students with refugee families, she volunteered, figuring her Arabic could help her connect better with some of the people served by the program.

Hassouneh found herself assigned to a Sudanese family living in an impoverished, largely immigrant community in Chelsea, Massachusetts. "I grew up seeing how stressful it was for my parents to maintain a connection with their Palestinian roots while moving from one country to the next," Hassouneh says, "so I was happy to help this family find their way in their adopted homeland."

Hassouneh got to know three generations of the family, especially one daughter who was in the midst of the college application process but had little understanding of how to navigate it. Obtaining the right education, Hassouneh knew, was critically important to this teenager; the high school senior had watched her older sisters, both of whom had earned university degrees in the Sudan, struggling to translate their credentials in order to find professional jobs in the United States. "They were working,"

FOUND IN TRANSLATION: Samar Hassouneh's command of Arabic led her to service learning experiences that have reaffirmed her cultural legacy.

"I grew up seeing how stressful it was for my parents to maintain a connection with their Palestinian roots." —SAMAR HASSOUNEH

"If the program inspires some future plastic surgeon to do volunteer surgery abroad 20 years from now, that's great." —MARYCATHERINE ARBOUR

recalls Hassounch, "at Dunkin' Donuts and McDonald's."

Hassounch arranged to spend the following summer in a Palestinian refugee camp in Jordan. Working alongside physicians, she conducted interviews with diabetic and hypertensive patients among the camp's nearly 150,000 inhabitants. "Many of these people could choose to live intermingled in Jordanian society—as many Palestinians do," says Hassounch. "But they have deliberately opted to remain in the camps. By doing so, they retain their refugee status and, they hope, a claim to future compensation for lost land."

In the camp's generally conservative atmosphere, Hassounch's lack of head covering and U.S. medical training made her unusual. Yet she found an extraordinarily warm reception by the camp's inhabitants. Their generosity, she says, was all the more striking, given their limited resources.

"It could be heartbreaking at times," she says. "Once the family of a young man with a crippling cervical spine injury pleaded with me to help get him to America for treatment. But how do you break it to the loved ones of a permanently disabled person that some conditions are beyond the scope of recovery, even in the States?"

Despite the poverty and lack of health care resources she witnessed, Hassounch was continually struck by the resilience of spirit she saw all around her. Choosing optimism in the face of despair was a lesson she hopes to incorporate into her future career in international medicine. "You'd see people living in tiny, unfurnished homes roofed only by a sheet of metal or maybe even cardboard," she says. "Yet when you asked them how they were doing, they'd reply, 'Oh, life is good! God is taking care of us for now, and we'll go back home some day.'" If and when they do return—or even if they don't—Hassounch, inspired by her experience with the Division of Service Learning, plans to contribute to their care. ■

~MARYCATHERINE ARBOUR~

ALTHOUGH HMS WAS STILL IN THE PROCESS OF CREATING ITS DIVISION of Service Learning when MaryCatherine Arbour '05 arrived at the School, she was quickly recruited to help; faculty organizers consulted her in designing and evaluating a service learning program in Chile, a country where Arbour had lived for three years before matriculating at HMS.

Arbour—who had worked for several years in anthropological research, church-sponsored community organizing, and migrant health services before deciding to study medicine—was happy to help out. To vet prospective service learning sites for HMS students, she visited more than a dozen organizations in Chile, ranging from large Catholic social service organizations to a tiny orphanage to a rural peasant settlement.

While the official goal of the program, says Arbour, is to afford HMS students opportunities to learn Spanish and provide community service, "what it's really all about is exposure. If, in every cohort, even a couple of students experience a crystallizing 'aha' moment in their thinking about how they will integrate their skills down the line, it's worthwhile. If the program inspires some future plastic surgeon to do two weeks of volunteer surgery abroad 20 years from now when he or she can afford to do so, that's great." Arbour hopes that the Division of Service Learning will one day be in a position to fund the involvement of all students who want to participate in international service learning.

Such opportunities, she believes, are invaluable. "Once when I asked one of the Chilean host organization leaders how big a role language barriers might have played in determining the outcome of some of the students' experiences," Arbour recalls, "she told me she didn't care about how much Spanish the students knew. What she really wanted in her volunteers was what she called *entrega*—a spirit of giving of oneself. The Division of Service Learning provides an ideal forum for future doctors to observe and cultivate this spirit. It's easy to portray the students engaging in these service learning experiences as heroes. But I suspect the students would tell you that the real heroes are the people who, with unflagging *entrega*, are committed to doing this work all the time—day in and day out—despite their limited resources." ■



CHILE RECEPTION: MaryCatherine Arbour helped HMS students do service learning abroad.



ODDSMAKER:
Tiffany Jackson
has worked to
improve the
prospects of
teenage mothers
and their babies.

~TIFFANY JACKSON~

NOT LONG AFTER TIFFANY JACKSON '07 ARRIVED AT HMS, SHE DECIDED she needed to go global to take her medical aspirations local. With the vision of one day practicing obstetrics and gynecology in underserved communities, Jackson sought to develop a stronger command of Spanish to allow her to communicate more effectively with her patients.

The Division of Service Learning afforded Jackson, in the summer following her first year at HMS, the opportunity to embark on eight weeks of intensive language studies in Chile. She put her steadily sharpening language skills to use teaching healthy eating habits to children at a community center in a disadvantaged neighborhood of Santiago. "It was striking," Jackson says, "to witness the full effects of poverty. I would see obese and undernourished children standing side by side." She also participated in a rural health services project in a remote northern region, working alongside a team of Chilean physicians and medical students.

Upon her return to HMS, Jackson continued her commitment to simultaneously learning from and reaching out to people whose life experiences differ radically from her own. She joined BABIES (Boston Adolescent and Baby Initiative to Ensure Success), a program that Tarayn Grizzard '05 had created to pair up young mothers-to-be with medical student mentors. "The girls range in age from 15 to 22," says Jackson. "They're considered at-risk, but they're also motivated to give their babies a positive start in life."

The medical students accompany the girls to prenatal appointments, but their support isn't only clinical. "To establish good rapport, the first thing we did was to take the girls bowling," says Jackson. "But even there, we subtly tried to encourage healthy behavior, by urging them to choose juice instead of soda, for example."

The service learning process, though, runs two ways, Jackson adds. "I learned quite a bit from the young woman with whom I was matched, about just how complicated patients' lives can be. I watched her juggle, at an age similar to mine, responsibility for two young children while also attending nursing school. I got to witness a life very different from my own, and I hope this experience will help me become a better doctor."

And being an excellent doctor, adds Jackson, takes more than the wealth of knowledge available in Harvard's classrooms and laboratories. "You get so caught up in learning the science of healing," she says, "that it's easy to lose sight of the complete, rich fabric of patients' lives. The Division of Service Learning reminded me that I don't have to sacrifice the passion that led me to medicine in the first place." ■

Beverly Ballaro is associate editor of the Harvard Medical Alumni Bulletin.

"To establish good rapport, the first thing we did was to take the girls bowling." —TIFFANY JACKSON

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